

AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

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AMERICAN RAILROAD JOURNAL.

NEW-YORK, NOVEMBER 14, 1835.

COMMENCEMENT OF THE NEW-YORK AND ERIE RAILROAD.—We find in the New-York American of the 10th instant, the following announcement of the commencement of the construction of this important work. The Editor of the American says:—

"It is with feelings of the highest satisfaction that we announce the important intelligence, that the construction of this great work was commenced on the morning of the 7th November instant, by breaking ground at sunrise, at the western extremity of section No. 200, on the Delaware River, in the village of Deposit.

The members of the Executive Committee of the Board of Directors, consisting of Messrs. J. G. King, P. G. Stuyvesant, S. B. Ruggles, and W. B. Lawrence, under whose immediate charge this duty was performed, report—that on the preceding day, forty miles of the work were put under contract pursuant to previous notice—that the sections (44 in number) were taken by twenty-six different contractors, of approved standing and experience, many of whom will proceed to commence the work without delay—and all of whom are required to do so, on or before the 15th of next month.

There were more than seventy contractors on the ground, and several offers to take the whole route.

The graduation of this particular section is comparatively the most expensive of the whole line between the Hudson and the Lake,—but for that, among other reasons, it was selected by the Directors as the portion first to be undertaken, in order to subject to a severe test the correctness of the previous estimates. It has resulted in conclusive-

ly establishing the accuracy of Judge Wright, who, in his report to the Legislature, had estimated this division at \$9,500 per mile, and nevertheless, it has been now put under contract at prices short of 8,500 dollars, and that too at a season when the prices of labor and provisions are unusually high.

The aggregate saving in this forty miles will be between fifty and seventy thousand dollars.

Encouraged by this very gratifying result, it is the intention of the Board to press forward the work with all practicable despatch, and if possible, to get ready another considerable section for contracts, before the 15th of next month. The last lingering doubts as to the practicability of completing this great undertaking at a very moderate expense, must now be removed, and we cannot but congratulate the public and the Stockholders, upon the flattering prospects thus opened to them."

This is, indeed, an important era in the history of New-York. It is another event, which, like that of the commencement of the Erie Canal in 1817, will give new life and energy to the business operations of the State. It will prove, and especially so to the Southern part of the State, a refreshing, and fertilizing shower, which will unquestionably enable thousands to reap golden harvests, where they have heretofore, with the most unremitting industry, obtained a bare subsistence. It will cause a line of flourishing villages, and eventually cities, to spring up—where now, or recently, the howling wolf roamed at large, committing his depredations upon the adventurous flocks of the hardy pioneer—and compete with those brought into existence by the Erie and other Canals. It will be to the South part of the State, what the Canals are to the North; and, like the CANAL, it will throw out its branches in every direction, which will afford to the neighboring villages the benefits of easy access; and to the stockholders a prospect of increased income. It will enable the farmers of Delaware, Broome, Tioga, and the counties west of them, to supply the market of this City with fresh provisions, at prices satisfactory, both to them, and to us; and what is of greater importance still,

to this City, it will open another ready avenue to the fertile valleys of the garden of the world; the produce of which, having become too enormous to find an outlet through the other channels prepared for it, will, on its thousand cars, come rolling down upon us like the mountain avalanche; producing of itself an increase of business on this Island, little anticipated, by the thousands who have looked on with apathy, or doubt, or of selfish jealousy, during its early history. It is, indeed, a proud era to those who have stood by it, with unflinching determination, through its darkest days; and they will yet, we trust, realize their most sanguine hopes and anticipations. To those who have doubted honestly, we say, go and doubt no more—and to those who have been selfish in their opposition, we say "go and sin no more"—against light, and the best interests of the State.

CONVENTION, INTERNAL IMPROVEMENTS, &c.—The delegation appointed by the citizens of New-York, to attend the Internal Improvement Convention, proceeded on Monday last to Utica, for the purpose of representing the interests of this Commercial Emporium. The gentlemen selected to discharge that important duty, are most of them, we believe, either now, or recently, active, persevering, and successful business men. They are intimately acquainted with, fully understand, and duly appreciate, the value and importance to the city of New-York, of those works, and Internal Improvements, so wisely commenced, and so successfully completed by the State—works, in truth, which have operated as a leaven, not only upon our own country, but also upon the whole civilized world; and have even an impulse to the spirit of improvement, which will produce results as much beyond the estimate and calculation of even the present most sanguine and active friends of the "good work," as we are now advanced beyond the first settlement of the American Continent.

To many, this may appear wild and visionary, and even madness; but if they will only reflect for a moment, and imagine the increasing velocity, and overwhelming power of a mighty river, supplied by the streams of a thousand hills drenched by the torrents of an equinoctial storm, not only of a week, but of years continuance, he will then have a faint idea of the growing impulse throughout the world, in favor of INTERNAL IMPROVEMENTS!!!

This, even, is not visionary. It is only an enlarged view of the subject—a subject, indeed, of more importance to this, than to any other country under the sun; and it should therefore be made as familiar to every citizen of the Union, and especially to the rising generation, as household words.

Is proof required for these opinions? Facts, innumerable, might be adduced to establish them, but we will mention one or two only—and first, the population of this city in 1810, was 96,373—in 1825, it was 166,086, giving an increase of 69,713 in fifteen years, previous to the completion of the various Canals, and commencement of the Railroads.

Now contrast this statement with the following, a result mainly to be attributed to the increased facilities for business, afforded by the Canals and Railroads.

In 1830 the population of the city was 207,021, and in 1835, by the census just completed, it is 269,872; showing an increase in five years of 62,851, which is nearly equal to the increase of fifteen years as shown above. Secondly, we will refer to the line of almost cities, from the Hudson to Lake Erie; the progress, and indeed origin, of which, in many instances, is mainly, if not wholly attributable to the Canals; as well as the unparalleled increase in the value of real estate in their vicinity—an increase, indeed, of more than ten times the cost of all the Canals in the State, over and above what it would have been, if they had not been built. Thirdly, the unparalleled increase of population, wealth, and prosperity, in the great and fertile West—a prosperity which, but for our Canals, would have been of the next, rather than of the present century.

Who, that takes a calm and dispassionate view of this whole subject, will not come to the same conclusions that we have, in relation to our own country? All, all will do it sooner or later.

As to the operation of the same spirit in Europe, as well as in this country, the evidences are increasing daily; and while writing this article, we find in the Mercantile Advertiser, an extract from a letter which confirms it as to Germany; and in another column, will be found similar evidence as to other parts of the continent. Of Great Britain, we need hardly speak, save in a spirit of commendation, of the immense and numerous works going on, and in con-

templation. They are the best evidences of liberal forecast, and public spirit, of the English people.

The letter referred to is as follows, and alludes, if we are not in error, to our worthy citizen, JAMES H. BELL, Esq., now the Chief Engineer of the Mad River Railroad in Ohio.

Extract of a letter, from a gentleman in Leipsic, to his friend in this city, dated Sept. 21st, 1835.

"It is with sincere regret, I see from a letter I have just received from M—, that we have no chance of seeing the hopes I expressed to you in my last letter, written in May, realized, viz: to see J. B. the leading Engineer of our Railroad from Leipsic to Dresden. I am the more disappointed, because I think there will be very brilliant prospects for an intelligent and experienced engineer in this country. The whole north of Germany has been seized with a Railroad fever since we set them an example, and I think the time is not far distant, when this whole country will be covered with a perfect net of Railroads."

If, then, our predictions are eventually to be realized, how important it is, that the CONVENTION at Utica, now in session, should view the subject in a proper light; and discard all local or sectional feeling; and show themselves the representatives of a mighty State, whose interest they have at heart.

Their deliberations should be how to benefit the greatest number, in the shortest period, at the least outlay of capital; how they can most effectually promote those works which, at the same time that they advance the interest and convenience of our own citizens, also induce the citizens of other States, and especially of the West and South, to make us their carriers, commission merchants, shippers, and bankers.

It is now an established fact, that no considerable work of improvement can be completed in any part of the Union, which will not in some degree benefit New-York; yet it is important that our own works should be so constructed as to meet, if possible, and correspond with those made in other States; and highly important that we should open avenues which will compete successfully with any of our rival neighbors.

NORWICH AND WORCESTER RAILROAD—BREAKING GROUND, &c.—We have received a very polite invitation from the President of this Company, to attend the ceremony of breaking ground, which is to take place on the 18th instant. We need hardly say, that we should be highly gratified to accept of the invitation; and to participate in the pleasure, which the ceremony will undoubtedly afford to those who have, with so much perseverance, pursued this noble object, which will now, beyond all question, be speedily accomplished.

Judging from the Report of the Committee, which, with the Act of Incorporation—and a most liberal one it is too—has also been received—this Road, connected, as it

will be, with the Boston and Worcester Railroad, and passing through the most populous, wealthy, and enterprising part of Connecticut, will most assuredly become an exceedingly valuable investment. It is truly surprising to learn the amount of business which is now done on the line of this Road; but more so to reflect what it will be when this Road shall have been a few years in successful operation.

Its whole route is along the water courses, and its greatest inclination is under 95 feet per mile, and its average under 12 feet, with an abundance of materials along its route for its construction.

Thus it is that the whole country is becoming checkered with Railroads. Boston has its Providence, its Lowell, and its Worcester Railroads; and Worcester, in its turn, becomes a point of radiation, and will soon have its Norwich, its Springfield, and, at no distant day, its Albany, Railroads; whilst each of these will give rise to others of less extent, but not of less utility, to the flourishing villages, and rapidly improving country, to be benefitted by them.

It appears, by the report, that the first charter was for a Canal; but on discovering the superiority of Railroads—and it would be very singular if the people of Connecticut did not make that discovery—the Canal project was abandoned, and a Railroad substituted. By this change the immense water power is preserved, and the facilities for travel and transportation greatly increased; whilst with a Canal, much of the former would be destroyed, and of the latter, transportation only would be benefitted.

There are instances, undoubtedly, where Canals are preferable; but since the American people have become so much of a locomotive race, and so impatient of control and delay, it has become highly essential that the works of Internal Improvement should at once combine the advantages of speed, and capacity for transportation—at low rates.

Of the certain, and immense reduction of expense of transportation on Railroads, we do not entertain a doubt. Experience, in other modes of transportation, will bear us out in saying that such improvements will yet, and soon, be made in the construction of Railroads, and its machinery, as, in fifteen years, to reduce the cost of transportation more than one half.

It would, indeed, be singular if the first projectors and makers of Railroads, were to jump at once to a state of perfection in the art; whilst the developments of the advantages, and the improvement in Canals, have been going on for ages; and in arriving at the present condition of steamboats, the united and devoted efforts of many of the ablest men in the world have been engaged for more than a quarter of a century.

The field, for improvement is, in our opinion, far greater in Railroads, and its

machinery, than in steamboats; and yet we see a reduction in the price of transportation of passengers in the latter, reduced, in a few years, from \$10 to \$8—\$6 \$4—\$3 \$2, and even to \$1, from New-York to Albany. At the last named price, very little profit can be made; but at \$2—or one fifth of the first prices, and in less too than 30 years, from the first introduction of steamboats on the Hudson—fortunes could be made in carrying passengers to Albany.

If, then, such reductions have been made in steamboats, why may we not also anticipate corresponding improvements, and reductions in the prices of transportation on Railroads?

The following extract and summary of the report will give a very good idea of the route, the road, and its prospects.

The wonderful improvements of a few years past, justify us in anticipating that in a very short space of time, there will be one continued line of Railroad from Maine to New-Orleans, and the physical structure of the country seems to point out the vallies of those streams leading to Norwich, as the true route for this link of the great chain of communication.

From what has been stated it appears—

1. That the route of the Norwich and Worcester Railroad is a direct route to Worcester, by the vallies of rivers—with a country in every respect favorable, with an elevation to be overcome in no point more than thirty feet per mile, and the average elevation of 11 77-100 feet per mile—and that the materials of construction are at hand, and the expense would be unusually small.

2. That within five miles of the route there are seventy-five cotton manufactories, twenty-seven woollen mills, about one hundred stores, and numerous mills for the manufacture of iron, paper, &c.—that the number of cotton spindles employed in the two counties in Connecticut through which this Railroad passes, is officially ascertained to be 106,220, being more than three quarters of the entire cotton manufactories of the State, and that there is probably nearly an equal amount in the county of Worcester, and that there is not, in any part of this country, a region so abounding in manufactures as on the borders of this route.

3. That the present amount of transportation to market from towns very near and on the borders of this route, is at least equal to 30,000 tons annually transported through the entire route, and would be greatly increased by transportation from towns on the borders of the Boston and Worcester Railroad, from Boston and from the country north of Worcester.

4. That there is unoccupied water-power, on and near the borders of this route, ascertained by survey to be not less than sufficient to carry 1,000,000 spindles.

5. That there are in various places, on and near the route, valuable stone quarries for building, and in the town of Killingly inexhaustible quarries of flagging stone, pronounced by Professor Mather superior to any now in use in this country.

6. That the Railroad from Norwich to Worcester, and from Worcester to Boston, pass through the most populous part of this country, and that the counties through which these Railroads will pass, exclusive of the county embraced by Boston, contained in 1850 a population of 275,666, and that

there is a population north of Worcester, and of the Railroad from Boston to Worcester, which would find this the most direct route to New-York, not less than 250,000, exclusive of Boston.

7. That the route by Railroad from Boston to Worcester and Norwich, and thence by steamboat to New-York, is 100 miles by Railroad, and 130 by steamboat; and when completed, the passage may be made in 16 hours, and is the best existing route between Boston and New-York, being the easiest, cheapest, most direct, and rapid.

8. That the route from Boston to Norwich may be readily reduced to 83 miles—that Norwich is within three miles as near New-York as Stonington—and the route from Boston by way of Norwich to New-York would be as near as by way of Stonington.

9. If a Railroad is constructed on Long Island, the distance from Norwich to its termination is 23 miles, and from Stonington 25 miles, enabling the Norwich and Worcester Railroad to avail themselves equally well of the Long Island Railroad.

10. That a Railroad constructed on the borders of Long Island Sound, would accommodate the long travel, and would receive an immense amount of local travel—it being estimated that the number of passengers annually passing in the steamboats and the towns on the border of the Sound is not less than three hundred thousand, and that the distance from Norwich to New-York is 130 miles, and from Stonington to New-York, including two ferries, is 122 miles.

11. That by the extension of the Railroad communication to Lowell, and thence farther north and east, every part of the chain is benefitted, and this part greatly improved.

12. That the extension of the Boston and Worcester Railroad to Springfield, and thence to Albany, by opening the valley of the Connecticut, and affording a Railroad communication with the interior of New-York and the West, will add to the revenue of this Railroad.

HUDSON AND DELAWARE RAILROAD, OF THE *Effects of Internal Improvements*.—The following exceedingly well written—and nothing more just and true—communication is from the Newburgh Gazette, of 31st ult.

It refers to a circumstance, in relation to which the Editor of this Journal had, in the fall of 1830, an argument with a worthy citizen of Newburgh, who contended that “the attempt to introduce Towboats, in the place of sloops, to do the *freighting* business of that flourishing village, would prove a failure.” He insisted that *steam*, and *tow-boats* could never compete with sloops for *freight*; whilst it was contended by us that they would *eventually* supersede sloops for most kinds of freight, as much as they had then superseded them for passengers. Were we not correct? Let the citizens of Newburgh answer.

It is not necessary that we should exult in the so speedy fulfilment of our prediction; nor that we should express our satisfaction at the highly flattering prospect which greets us, of the *certain* completion of the Hudson and Delaware Railroad.

This Railroad was one of the very first

which came under our observation, when we commenced the Journal; and although, in the multiplicity of business, *aside* from that of the Journal, we may have seemed to loose sight of it, we have never doubted its importance to Newburgh, and shall hereafter take much pleasure in contributing our mite in this, our *only* possible mode, towards its completion.

The annexed is a list of the officers of the Company, which is composed of gentlemen who *will make the Road*—of gentlemen who will not permit it to be *Canajoharie-ized*—if we may be allowed the expression.

It is but just five years since our enterprising neighbor, CHRISTOPHER REEVE, first applied Steam to the transportation of produce and merchandize between this village and New-York. It was then regarded as a hazardous experiment, and one that must certainly fail, and bring ruin upon its projector. Such was the universal opinion at that time, and men could not see how a person of Mr. Reeve's sagacity, and experience in business, could embark in a scheme so wild and visionary. If any one had foretold that in five years we should have *five Steamboats* of the first class engaged, and successfully engaged, in the business of transportation, actually bearing away the palm of speed and superiority from the best boats on the river, he would have been deemed a madman at least, and the wise men of the day would have sighed over the folly as well as the frailty of poor human nature. Yet we actually see these predictions realized, and more than realized, every hour that we live; and we venture to assert that there are none now so bold as to foretell with any thing like certainty or truth what the next five years will bring forth in the way of improvement, should the country happily continue to be exempt from those calamities which baffle human foresight, and arrest the progress of human exertion.

The truth is, there are none of us who can properly appreciate the advantages of our position—the advantages of a free country, acting under the influence and impulse of a popular government, where individual enterprise and exertion are left to the free enjoyment of a fair field, and the unlimited scope of its own native energy. We are to apt too compare our country with others—to liken the liberal and enlightened age in which we live, with the semi-barbarous and gloomy eras that have gone before us, and to measure our advancement in the useful arts, and the work of public improvement, with the slow and sluggish progress of those nations who never have enjoyed our peculiar advantages. In countries where wealth is unequally distributed, and where aristocratic laws and institutions of government operate to make the rich man richer and the poor man poorer, the acquisition of wealth and the accumulation of capital is slow, compared with what it must be in a country where wealth is continually changing, and its distribution measurably equal, and where the laws and constitutions of government place men upon a footing of equality, and where there is no superiority, but that which springs from superior talents and industry. With us surplus capital is applied to the purposes of internal improvement and other objects of public and universal usefulness; while in the monarchies and

despotisms of the Old World it is wasted in desolating wars, in the destruction of human life, and the prostration of human industry, in the construction of works of defence, and the erection of monuments of art, which minister to the pride and pamper the vanity of the few, without meliorating, in the slightest degree, the condition of the many. We have no privileged classes who claim an exemption from the public burdens. We have no pensioned, pampered idlers, who live upon the labors and industry of their fellows. We have no wars, and but few works of public defence. We maintain, comparatively speaking, no army, and, for our extensive commercial marine, a limited navy. We have no public debt, and pay neither taxes nor tythes, but we are living in the enjoyment of equal laws, equal rights, and under institutions of our own creation. We have the cheapest government now existing, or that ever did exist. Our population are all producers, actively and eagerly engaged in the acquisition of property, and contributing by their exertions to enlarge the volume of wealth and capital.

It is this immense increase of capital, uniting with that which flows in upon us from foreign countries, that is constructing our Railroads and opening our Canals, building our cities and villages, and operating to advance the price of real estate of every description; and unless our prospects and prosperity are marred by some unforeseen and untoward accident, new works of internal improvement will be projected and executed, new cities and villages will be called into existence, and real estate increase in value far beyond its present prices.

Unless our surplus wealth can find employment in the purchase of lands, in the construction of public works, in new fields of commercial adventure, and in the various branches of manufactures and the mechanic arts, we are at a loss to know what is to become of it. Men will not bury their money in the holes and caverns of the earth, or hide it in the depths of the deep sea. While the country was oppressed with a heavy public debt, and individuals were borne down with similar embarrassments, it was more easy to lend than to borrow money. But the times are strangely out of joint in this particular, and those that have money to loan are sadly perplexed to find borrowers. The national debt has been extinguished, and the State is offering eight or nine per cent. for the privilege of paying off its Canal loans. Bonds and mortgages have been erased from the public records by thousands, and it is far more common to find men searching for the debt to apply the means, than the means to pay the debt. The reign of the Sharks and Shylocks seems fast hastening to its close, and men of moderate means may now venture into the money market, and not become a prey to the spoiler.

Such are some of our reasons for the opinion that real estate in this vicinity has not by any means reached its maximum value; and these reflections will also exhibit in part the basis of our faith when we express our sincere belief that the Hudson and Delaware Railroad will be completed and put in operation in far less time than that limited by the act of incorporation. We confess we are exceedingly gratified at the manner in which the Company has been organized, and we regard it as an especial subject of congratulation that the stock has fallen into the hands of our own citizens, and its management confided to

the individuals who compose the present Board of Directors. Had the stock been taken by the jobbers and speculators, men who would have used the scrip as black-legs use the cards, to cheat and deceive the unwary, regardless of the ends and objects of the charter, or had it fallen into the possession of mere strangers, men who had no concern with our interests, and had no hearts for our prosperity, with the case of the Canajoharie and Catskill Road fresh in our recollection, we certainly should have had some fears for the result. But now that the capital is within our own control, and with ample means of our own to carry the project forward to its final completion, we consider the construction of the Road an event which no longer admits of a doubt. The question hereafter will not be whether the Road will be made, but where it will be located, and what is the shortest time possible in which it can be put under contract and completed. The interest taken in the successful issue of the project is not confined to the citizens of our own immediate vicinity. It was not amongst the least gratifying circumstance which occurred at the election for Directors to witness the presence of numerous and respectable delegations from Walden, Washingtonville, Montgomery, Phillipsburgh and Middletown, tendering their hearty aid and co-operation should the line of the Road fall anywhere near those flourishing villages.

We think also that the selection of the present Board of Directors is another earnest of the speedy construction of the work. It was well remarked in our hearing the other day, that the Board combines within itself more sterling talent—more real substantial wealth, persevering energy, and untiring industry, than any similar body of men selected for a similar purpose within the county of Orange. We all know that the gentlemen are largely interested in the stock, and that they have within themselves ample means to make every foot of the Road without interfering with or interrupting any of their other pursuits. Their high character for honor and probity is unquestioned, and their enterprising spirit, and successful industry, is exhibited and made manifest in the numerous works of substantial improvement commenced and consummated in our vicinity within the last five years. Amongst the Directors will be found the projectors and early advocates of the Road when its success was doubtful—who have clung to the project and cherished the hope of its ultimate accomplishment, through every change of good and evil fortune. It is an effort in every way worthy of their genius and enterprise, and the liberal and enlightened age in which we live.

At a meeting of the Directors of the Hudson and Delaware Railroad Company, held at the Orange Hotel on Saturday evening, 24th inst., the following officers were chosen, viz:

THOMAS POWELL, President; J. W. KNEVELS, Vice President; JOHN LEDYARD, Treasurer; JAMES G. CLINTON, Secretary; D. W. BATE, Esq., Attorney and Counsellor.

The Directors have taken measures to secure the immediate services of a distinguished engineer, for the location of the route.

RAILROADS.—The Boston Daily Advertiser says—We remarked a few days since upon the changes about to be produced, by the introduction of Railroads, on the growth and prosperity of commercial cities. The channels of communication, instead of depending as heretofore upon the course of rivers which intersect the various comper-

cial countries, will be determined and established, by the enterprise of those cities which have the foresight to seize first upon the routes which the face of the soil admits of being established. We alluded in those remarks more particularly to the improvements, of this description, likely to be introduced in this country. The same questions present themselves with equal force in Europe. A French Journal, just received, contains the following information, under date of Frankfort on the Maine.

"If our information is correct, great and powerful rivalships are about to take place in the sphere of internal improvements. Several companies encouraged and assisted by Bavaria and its bankers, have formed the project of making a Railroad from Bamberg to Leipsic, so as to unite the Elbe with the Danube, by means of the canal of Bavaria, thereby giving to Hamburg the supply of colonial goods to all Germany. Another company, among the members of which figure several great houses of Strasburgh and Metz, have a project of establishing a Railroad from Strasburgh and Metz to Sarrebruck, for the conveyance of coal, provided the Bavarian government will undertake to continue the Road, in connexion with the neighboring states from Sarrebruck to Mayence, so as to unite Metz and Strasburgh with the canal of Maine and Central Germany, thus excluding from the commercial movement of Germany, all the Lower Rhine, Belgium and Holland on one side, and Baden and Wurtemberg on the other. However active the undertakers of this project may be, a serious opposition is already prepared. It consists of an undertaking to establish the Canal of the Black Forest, which will have for its object to unite the North Sea with the Rhine at Kehl, with the Mediterranean by the Canal of Monsieur, and with Lake Constance and Upper Italy by a Canal which the Company of the Canal of the Black Forest are about to undertake. The funds of this last Company are secured by several houses of Amsterdam, Brussels and Cologne. Such are the facts, and such the projects which agitate the world of industry. We undertake only to be its historian, leaving it for the future to decide which of these great rival enterprises will obtain the victory."

We transcribe this passage from a foreign journal, for the purpose of showing that the same sort of rivalry in this species of improvement has sprung up in Europe, which exists in this country. The works above mentioned are but a part of the projects which we see from time to time mentioned in the European papers. In regard to the class of improvements which will obtain the victory, we have no hesitation in believing that in most cases Railroads will decidedly take the precedence over Canals, and chiefly for two reasons, one, that Railroads have a wider range in the choice of their route, not being confined to channels in which a large body of water can be made to flow, and the other, which is the most decisive, that besides being a channel for commerce, it is at the same time a channel for the conveyance of persons, and in a manner so far superior to every other mode of conveyance, as to give it the monopoly of travelling, and in consequence, to afford it the richest source of income.

Railroads, it is true, as hitherto conducted, have not been able to transport goods at so low a rate of expense as canals. This, however, is to be attributed chiefly to the fact, that an economical mode of transportation has never yet been adopted on the great public Railroads. The reason is,

that the transport of passengers on all these Railroads has been the leading object, and the conveyance of merchandize a subordinate one. A different system may undoubtedly, and will be introduced, by which merchandize shall be conveyed at a comparatively slow rate, with engines of a different construction, of less speed and greater power, to travel in the night only, leaving the Road free for passengers in the day time. Travelling by night on Railroads is unsafe only because it is rapid. If engines be so constructed as to reduce their speed, and increase in the same proportion the weight of the load which they are capable of moving, they may travel by night with perfect safety, and may convey those loads with as little cost, as loads of the same magnitude on Canals. Such we believe will be the result of future experience. Railroads will therefore possess the double advantage of rapidity of conveyance when quickness of movement is desired, and of cheapness whenever a saving of time is unimportant. It will consequently possess the advantage of deriving an income from both these sources, and of combining at the same places the facilities of business resulting from both, and will therefore in a great measure supersede an improvement which possesses but one, and that the least important of these advantages.

The preceding remarks from the Boston Daily Advertiser, are worthy of being republished in every newspaper in the Union. The writer judges the future by the past—and he is correct in saying, or rather in *showing*, that great and important improvements are yet to be, and certainly will be, made in the use of Railroads.

They are yet altogether in their infancy—not more advanced in their progression than Canals were a century ago. They will, however, advance more rapidly than Canals have done; and in *twenty* years, the transportation on them of *most* articles will be *more rapid, more sure, more safe, and less expensive*, than on Canals—and what is of vast importance to this country, they will traverse it in *all* directions, bringing every part of the country comparatively near market—and easy of access.

According to the Baltimore Patriot, the tolls on the Pennsylvania Canals and Railroads, for the year ending on the 31st ult., amount to about 690,000 dollars—nearly double the receipts of the preceding year.

Thus it is that the works of Pennsylvania are becoming more and more productive.

To the Editor of the Railroad Journal:

SIR—My attention was forcibly drawn to the remarks of your correspondent, in the January number of the Journal, on the subject of Suspension Bridges, and more especially with his liberal and magnificent design of erecting such a structure at the Fulton Ferry. The views of that gentleman are worthy of the enlightened state of the arts, and in keeping with the advancements of the age; and although the measure he proposes has elicited no public attention, that I at this distance am aware of, it has doubtless made a permanent impression upon the minds of those within whose peculiar province it falls.

It is not my intention to say any thing in addition to the subject of his communica-

tion; but as it is connected, in my mind, with the design of this paper, a recurrence to it serves as a suitable introduction to a notice of a Bridge upon a new plan, which the inventor is about to patent, and which, to my view, seems to possess a peculiar adaptation to the site of the Fulton Ferry, whilst its general application would not be less profitable in minor constructions.

A Bridge of the form that I am about to speak of, may be termed (without impropriety, I suppose,) a Suspension Bridge; but the important point on which I differ from those at present known, consists in the employment of continuous bars of wrought iron, instead of chains made up of links; thus (*ceteris paribus*, diminishing the weight of the metal one half, and probably in the proportion of two to five, and also enabling the architect to extend his bars much more tensely than can be done with chains in the present mode of erection. Indeed, in a span of one hundred or one hundred and fifty feet, the tension can be given so as to present but a slight departure from a straight line, and the curvature will be nothing more than that which results from the elasticity of the metallic bars themselves.

It is proposed to secure these bars, at their extremities, and to pass them over abutments (and piers where they may be required by the breadth of the stream,) in a manner no wise different from the usual chain-fastenings; but as they will assume but a very slight curve from *sagging*, compared with the catenarian curve, which gives a corresponding obstruction to the waterway, unless the suspension towers have considerable elevation, these abutments will be required to be raised but to a moderate height above the surface of the stream, thus reducing to a great extent the cost of a bridge in all situations, and demonstrating the practicability of its erection on sites where otherwise the expense would not admit of them for many years to come, and in some, most probably, never.

Moreover, a Bridge of this construction may be provided with a draw, upon a plan, which I believe, is equally novel and ingenious. This is to elevate the two piers, inclosing the draw, to a height sufficient to pass the tallest vessel that may apply, and over these to extend a second series of the continuous bars, terminating in braces, which may be securely fastened in various ways at the ends. The moveable floor is suspended from these by pendulous rods, whose upper extremities are attached to the axles of two or more flanged or grooved wheels, plying upon the upper series of bars in such manner that when the draw is closed, the wheels repose in the midway of the opening, and as it is opened, recede *pari passu*, with the floor towards the pier. If a Bridge on this plan were built at a point of great thoroughfare, an accessory pathway for foot passengers might be made by a stairway over the summits of the piers, while the opening of the draw would only obstruct the passage of vehicles.

In addition to economy of construction, the inventor thinks it is an important feature, that if any parts need renewal, they may be removed without impairing the strength, and replaced by others, and thus the whole structure be consecutively renewed, like the gradual absorption and deposition of the particles of the living frame.

It was not my purpose to say more (nor indeed so much) of the form of this Bridge at present. That objections may be suggested against it, I have no doubt, but I think they are all susceptible of removal or obviation, and none can apply that do not

attach with much greater force to Chain Bridges, whose utility and adaptability to the most critical and difficult situations are not now matters of question. My object was to call to it the attention of those of your readers who are more qualified by their habits and experience to judge of its claims, and perhaps to draw forth their opinions.

S. M.

Baltimore, March 12th, 1835.

Accompanying this communication we received drawings of two forms of this Bridge, both intended for draws, and one in illustration of the stairway, for foot passengers. They were not intended for publication, yet they are at the service of any gentleman who may desire to examine them. The plan certainly has novelty, if no other merit for its recommendation—and we ask for it an attentive perusal.

QUERIES TO ENGINEERS.—We have been requested to submit the following queries to the consideration of Engineers, and to request replies to them through the Journal.

1st, What rate of ascent per mile is preferable for the use of locomotive steam power, to that of stationary, upon a straight line of Railroad, the distance the same in both cases, the cost for construction the same in both cases, the freight, passengers, and as many as can be transported upon a good permanent double tract, upon a level Road?

2d, What rate of ascent per mile is preferable for the use of locomotive steam power, upon a curved line, say 1000 feet radius, to that of stationary power, by making the curves between the planes of a smaller radius, say 500 feet, and the planes for stationary power on straight line, distance, cost, and transportation, as before mentioned?

3d, What rate of ascent per mile is preferable for the use of locomotive steam power, to that of stationary, as in the 1st and 2d question, provided the transportation is only half the Road is capable of doing?

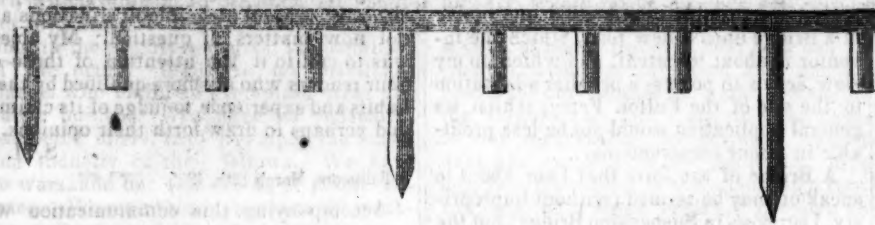
4th, What rate of ascent per mile is preferable for the use of locomotive steam power, to that of stationary, as in the 1st, 2d, and 3d questions, with the exception of passengers, as freight and transporting produce and merchandize?

5th, What extra distance is equal, by going around an elevation and depression, to that of going over at the rate of 60 feet per mile, for a distance of 2 miles, 1 mile each way from the summit, the level the same on both sides of the ridge, the curves the same in both cases, the cost for construction the same in aggregate, transportation to be passengers, as in the 1st question?

6th, We will fix the rate of ascent for locomotive power, at 60 feet per mile for this question, and say, we have 10 miles to ascend at the same rate, for the transportation of passengers, as in the 1st and 2d question, cost for grading is \$10,000 per mile=\$100,000, and further say that a location can be made near the one proposed, by rising 40 feet per mile, for the 1st 5 miles, and the remaining 5 miles will ascend at the rate of 80 feet per mile, this location will cost less money than the 1st, how much less should it cost to make it equal to the 1st, distance the same in both cases?

I have asked the above, questioned in that simple, plain, and pointed way, in order to prevent the gentlemen avoiding the answers of some kind.

HASKINS' PLAN FOR CONSTRUCTING RAILROADS.



The following plan for constructing Railroads, is submitted for the consideration of our readers. It will be found useful, in many parts of the country, for passing soft or marshy ground, and perhaps for the construction of cheap roads. We are truly obliged to Mr. Haskins, as we are to every gentleman, who favors us with his views on the subject of Railroads.

Mr. Minor, —I subjoin, for your publication, a plan for constructing Railroads, which, so far as I know, has not been advanced by others, and which may be found useful. I made a suggestion, some four years since, embracing the principle, in an article upon the Mad River Railroad, which appeared in one of our public journals. In April last, I drew out a plan and specifications, and submitted them to the Directors of the Aurora and Buffalo Railroad Company; since which, some copies thereof have been obtained for Engineers upon other works for examination.

Durability, and the maintenance of fixed levels, are matters of the first importance, in Railroads. I believe Engineers do not estimate the durability of these works, when constructed upon any one of the most approved plans at present in use, at over ten or twelve years; that is, without expenditures which almost equal the cost of rebuilding upon the same grade. If this is so, I believe the subjoined plan for constructing will prove valuable; for, while its cost will be found (where suitable timber is plenty) intermediate between the *most* and the *least* expensive Roads that have been made, it will produce a Road which, without any material repairs, will maintain its level, and remain good from sixty to eighty, and in some cases even one hundred years. I know full well that *driving piles* is nothing new in Railroad construction. Over marshy grounds these Roads have always been carried on piles, but on dry ground, the expense would be too great to drive as many piles as would be needed for *all* the rests. The proposed plan is designed to secure a fixed level for very long periods of time, without undue expense. The grading will be the same in this as in other cases.

The engraving below, exhibits a vertical section of Road, the stretchers which are to receive the rails, resting at either end, upon piles driven into the earth, and immediately upon blocks of wood. The stretchers and piles are each one foot through, and the blocks the same. The piles varied in length, as the soil varies in which they are to be driven, the depth being always such as to secure their firm position, against the action of frost, or of rains, in softening the soil. Piles thus driven, at distances to accommodate the length of the stretchers, when cut off to the grade, become *fixed points of level*. The blocks—used *intermediately*, to save expense—to have sawed, parallel ends, and

to be adjusted to the same level as the piles, the earth being driven in tight around them. Their length I have assumed at three feet. When at hand, a flat stone might be laid beneath each block, with advantage. These blocks, by the use of the Road, will, in time, settle more or less; but, as each end of the stretchers remains *fixed* upon the piles, these central depressions may, at any time, be elevated to a horizontal line, by wedges driven under the stretchers, upon the heads of the blocks—a process alike cheap and effectual.

The length of the stretchers, and the distance between the supports, or blocks, will be matters of consideration. The former I have assumed at twenty feet, and the latter four feet. Probably, as the stretchers will rest upon the soil, the distances between the supports may, in many Roads, be considerably greater than this. The stretchers should be tied, at suitable distances; though few ties will be necessary, if the stretchers be firmly bolted to the heads of the piles. These ties, when a horse-path is intended, should be cut away in the centre, so that the gravel of the path will form a smoother surface above them.

The piles, blocks, stretchers, and ties, which constitute the *whole work*, except the iron rail—if of beach, cedar, or locust, and cut in winter, will exceed in durability, the extreme of human life.

R. W. HASKINS.

Buffalo Sept. 4, 1835.

To the Editor of the Railroad Journal:

MR. MINOR, Sir, —In your Railroad Journal there has been much said on the subject of the tenacity or cohesion of iron, but in regard to the particular shape or form for Rails, (for wear and economy,) I am not aware that the subject has been much dwelt upon. From my observations of the different Railroads that I have seen, I am convinced that there is an immense difference in the economy and wear of the different kinds of Rails, and have no doubt that it is owing to the different shapes that the iron is wrought into, more than to the quality of iron used in their manufacture.

I have observed a great difference in regard to the splitting and scaling of Rails, by compression, (*from use*)—it appears to me that the flat or plain Rails can, and would be wrought more compact, and in wear there would be, at least 50 per cent. in their favor.

From conversations with many of the Directors of Railroads, I have not found that the subject has been much thought of. The safety in travelling on Railroads depends much on the solidity or compactness of the iron. The Rails that split or scale the most, must of course be more dangerous; the next consideration is economy in their results, for long use, and not for the mere consideration of their first cost only.

Will some of your numerous correspondents take the subject into consideration?

Yours obediently,

P. FANNING.

—We cannot reply to the above questions for want of experience, and therefore call upon those of our practical and experienced friends to answer them for us, through the Journal.

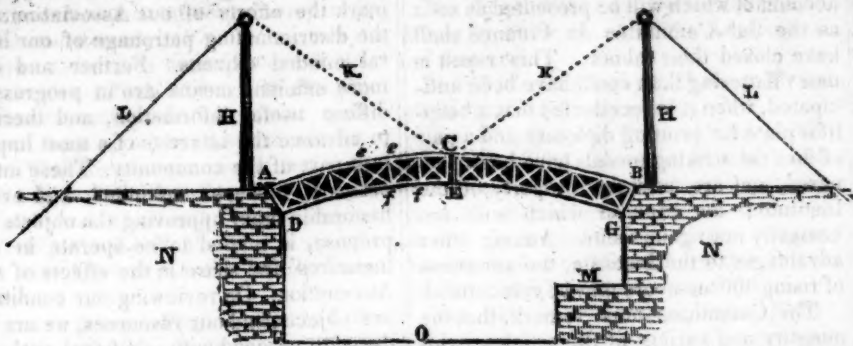
—It is important that this subject should receive attention, and we are ready to do our part, *publish* it, when we receive the answer.

The contemplated Railroad from Winchester, up the great Virginia Valley, to Staunton, merits the decided countenance and support of this community, and we are happy to find that there is a daily growing interest on its behalf among us. The construction of this work, it seems to be admitted both by its friends and enemies, will settle the question of the course which the trade of western and southwestern Virginia will take, in favor of Baltimore. The valley route to market is conceded on all hands to be the natural one, and with the facilities offered by a continuous Railroad from Staunton to Baltimore, the current of trade would set so strongly to this market, that no inducement which rival works could offer, could divert it from this channel. Once extended to Staunton, the line will never stop in its progress until in the first place it intersects the Railroad which is to unite the James and Kanawha improvements, and until it finally passes through Tennessee to a junction with the Nashville and New-Orleans Railroad.

[From the New-York American.]

We understand that considerable progress has been made, during the past season, in the works for the improvement of the navigation of the Hudson river. The whole amount of the first appropriation (\$70,000) will have been expended by, or before, the close of the season; in addition to which the Corporation of Albany have advanced \$10,000, to be applied, if deemed necessary by the Superintending Engineer, towards completing and securing those portions of the plan now in process of execution. The existing plan is the one recommended by a Special Board of Engineers, convened in 1834, subsequently modified, in a slight degree, at the suggestion of the Superintending Engineer, Captain Andrew Talcott. It proposes to remedy the present defects in the navigation of the Hudson, by contracting the main, and closing the lateral channels, and by protecting the shores, or those portions of them which may be endangered by the action of the current, by a covering of small rough stone. By the first operation, the waters are confined within narrower bounds, and to their consequent increased velocity, especially during the Spring freshets, the Engineers chiefly look for the removal of the existing bars and shoals. Dredging machines are likewise to be employed to effect this object; and the sand and gravel, thus removed from the bed of the river, are the materials used in the construction of the dykes, by means of which the channel is to be contracted. The covering of stone on the channel shores is intended to protect them from the abrasion of the waters, and thus, in so far as that measure is available, to prevent future deposits. There seems to be no reason to doubt the excellence of the plan in theory, or its eventual success in practice. In the latter event, Albany will possess a free navigation to the ocean for all vessels of or under 10, or, perhaps, 12 feet draught.

HOPKINS' CAST AND WROUGHT IRON DRAW BRIDGE.



Chambly, Oct. 24th. 1835.

D. K. MINOR, Esq.

Dear Sir,—I am anxious to try steamboats on the Canal that is at the point of completion here. I have a schooner which is well calculated to receive an engine of ten or twelve horse power, and would put one in her if I could get it cheap. Will you please to advertise in such a way, for a small engine, that I need not be obliged to take it, if beyond my means of payment. I should like a second hand one, and if high pressure, I should not object. Will you let me know the answer to your advertisement; and if an engine is offered cheap, I will come on and see it.

I have just been making a cast and wrought iron draw bridge, of 35 feet span, of which I send you a sketch; it cost \$1500, stone work and all.

From A to B is 36 feet, the versed sine of the arch is 2 feet, and the depth of the rib from C to E is 2 feet. The bridge is composed of 3 ribs, like the one A C B E, braced together, and planked over the top. The upper bar A C B, and the posts e f, e f, are composed of iron cylinders (cast), through which wrought iron rods are passed; the cylinders are 2½ inches in diameter, and the rods passing through them are 1½ inches; the rods passing through the post cylinders have eye bolt heads, and the rod that threads the upper cylinders passes also through these eyes; the post rods pass through the lower bar D E G, which is of wrought iron, ½ inch by 3 inches; the braces should be hollow cylinders, whose exterior diameter is 1½ in., and which are ½ in. thick; but it was found difficult to cast them here, and they were cast feathered. At G and D are cushions of wood to receive the bridge, in descending the posts. H H are hollow cylinders, furnished at top with a cross rod and drums for the lifting chains K K, and a counterpoise of 6 cwt.

The weight of iron is,

Cast Iron,	14,312 lbs.
Wrought Iron,	9,389

You will see that the object in making the upper part of the bridge cast iron was to resist the crust, and that the lower part was wrought to resist extension.

Will you send me your Canal Map?

Your obedient humble servant,
WM. R. HOPKINS.

[From the New-York American.]

I am one among the many who hailed with delight the Report of the Directors of the New York and Erie Railroad, published in your paper of the 3d inst. This document I consider as putting an end to all doubts, on the subject of the construction of that great work, and silencing at once the carils of its enemies, and the fears of its friends. Confidence is now firm, that New York will have the honor of constructing the greatest railroad, as she has of making the largest canal, in the world;

and what is more, of taking the lead in both grand enterprises.

I was particularly struck with the facts mentioned in the Report, in relation to the many branches proposed to be connected with this main route, leading to various parts of the State. The branch leading through the Unadilla valley to Utica, especially, must prove of great importance, connecting with a point where so many great public improvements concentrate, and penetrating into the heart of the most flourishing country in the world. This branch is called the Utica and Susquehanna Railroad, and, as I understand, is now in actual progress. The advantages of such a communication must be obvious to all. Allowed to transport freight as well as passengers, it enables the city and country to transact business, as usual, even after the canals and rivers are closed by the frost; it affords a winter outlet for the produce of the farmer, who can take it to Utica by sleighing, as soon as it is ready for market, and get his money, instead of waiting, much to his inconvenience and loss, till the canals are open; and, in short, it facilitates vastly the transaction of business, not only with the centre of our own flourishing State, but with the great West in general.

There is another point of view, in which the branch to which I allude, is of importance. Public opinion, has fixed upon Utica as the seat of State government, and the removal will probably follow immediately the announcement of the census now taking; and a direct railroad communication from this city to the Capital of the State, especially as the sessions of the Legislature are generally held in the winter, will be a great convenience at least.

But there is still another point of view, in which the Utica and Susquehanna Branch is of more importance; I mean as a link in the chain of railroad communication to Lake Ontario. The distance from Utica to Oswego is less than 80 miles, and by continuing the railroad to the latter place, we communicate by the nearest possible route, with that Lake, the immense country bordering upon it, and the vast valley of the St. Lawrence. It may be a question, also, whether this will not prove in practice the best route of communication with the other great Lakes further west, especially when a ship canal is constructed on the American side round Niagara Falls. But these considerations, if followed up, would lead me into too vast a field for a newspaper article, and I will only add, that I hope the communication by railroad and canals, with the great Lakes, by way of Utica and Oswego, will meet the attention it deserves, at the approaching internal improvement Convention at Utica.

CLINTON.

[From the Ellicottville, Cattaraugus Co. Republican.]

INTERNAL IMPROVEMENT.—CATTARAUGUS CO. —We would direct the attention of the reader and men of enterprise, to the communication of a "Dutchess County Farmer," which will be found in another column of this week's paper. The superior advantages which Cattaraugus possesses over many counties in this State, begin to attract the attention of men of enterprise. Cattaraugus, is by nature, one of the first counties in the State; her advantages are many, and need only to be examined and improved to become universally great. A water communication from Olean, in this county, into thirteen States of the Union, are advantages which every county of our State cannot boast of:—

Mr. Shankland: Sir—In looking through your interesting section of the State, and viewing the

advantages which a few weeks have enabled me to discover, I cannot but be surprised that our Eastern capitalists have not before improved them.—When the great fertility of the land, its aptitude for grazing and other purposes are known; when it is generally known that Cattaraugus is equal to any county in the State for grazing, and not inferior to many counties for raising wheat, corn, and other grain, it will be improved and its fertile hills and valleys will be covered with those useful animals, the sheep and the ox. There is land in the Eastern part of the State used for raising cattle and sheep, considered worth more than \$100 per acre. Lands here equally as good for that purpose are sold from three to twelve dollars per acre. So great a difference in the price of lands equally as valuable cannot long exist.

But independent of the fertility of the soil there are other advantages in this section equally if not more important. The extensive hydraulic privileges, the abundance of pine and oak timber in many parts of the county, the many indications in numerous places of extensive beds of coal, gypsum and lime, which have already been discovered, will have a tendency to make this county at no remote period one of the richest in the State. There has been during the last year more than three hundred million feet of lumber carried down the Allegany river, which at \$10 per thousand would be worth \$3,000,000. And there is no reason why there cannot be as extensive speculations in the lands in this section, situated as they are, where the timber can be so easily taken to market, as in the timber lands in Maine.

But when we see these advantages and take into consideration the population of the county, which is now nearly thirty thousand inhabitants, located where they must be particularly benefitted by the great public improvements now in agitation, we can then form but an imperfect idea of the future wealth of this portion of the State. The New York and Erie Railroad, which is in extent and importance, before any public improvement in the world, and the Genesee canal, will make the location of Cattaraugus better (excepting the city and county of New York,) than any county in the State.

Either of these improvements will give this county the carrying trade of to the eastern section of the United States—to thirteen of the southern, south western and western States. As goods can be transported much safer, cheaper and earlier in the spring on the river than on the lakes, the river would be preferred, and the trade of the rich, extensive valley of the Mississippi will be done through this channel. There is now a communication from Olean in this county, of more than 20,000 miles on navigable rivers into thirteen of the United States, which embrace half of the population of the Union. The produce of those States can be carried on this river to the Atlantic cities, and the merchandize consumed there can be conveyed either by the way of the Erie and Genesee canal, or Hudson and Erie Railroad, and down the Allegany, making that river one of the greatest thoroughfares in the world. If the merchandize and produce of the eastern and south western States are exchanged through this channel it must create a steamboat conveyance on the Allegany not surpassed by that of the North river.

Why is there not a fair prospect of as extensive a mart and large city at the intersection of the Genesee canal and railroad with the Allegany river as any in the interior of America? It will have at least as many advantages as Buffalo.

From these facts it will be seen at once that this railroad and canal will not only enrich this county, but be of immense benefit to the city of New York, and of more importance to the United States than any other improvement that has yet been made.

Hoping that the citizens of your county may enlarge upon the many advantages which your location possesses, I remain yours, &c.

A DUTCHESS COUNTY FARMER.

Franklinville, 26th Oct., 1835.

WESTERN TRADE.—A gentleman of this city has sold a lot on Ashton street, running into the Schuylkill at the corner of Filbert street, the proceeds of which paid for a water lot on the Delaware below Lombard street, of equal size. The former entirely unwharfed or improved otherwise, the latter has a wharf and large stores erected on the same. It was predicted not long since, that the time would come when the Schuylkill front of the city would be more valuable than that of the Delaware. How soon has that prediction been verified!—[U. S. Gazette.]

FIRST ANNUAL FAIR OF THE MECHANICS' INSTITUTE.

General Committee of Arrangements:

SAMUEL CARTER,
JOHN BELL,
WILLIAM BALLARD,
JONAS HUMBERT, Jr.,
HENRY DURELL,
JOHN M. DODD,
N. S. HUNT,
GEORGE BRUCE,
JOHN THOMAS,
WILLIAM STEBBINS,
PETER WALTERS,
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L. D. GALE,
S. S. WARD,
WILLIAM BELCHER,
WILLIAM PARTRIDGE,
OLIVER WHITE,
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COLIN LIGHTBODY,
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ROBERT SMITH,
WILLIAM EVERDELL,
ALEX. MASTERTON,
L. D. CHAPIN,
WILLIAM FRISBY,
WALTER N. DE GRAW,
L. FEUCHTWANGER,
AUGUSTUS CAMPBELL,
SAMUEL BAILEY,
WM. L. CHURCHWELL,
ALEX. J. DAVIS,
W. J. MULLEN.

REPORT.

To the Mechanics' Institute of the City of New-York, the General Committee of Arrangements respectfully report:

That the first Annual Fair of the Institute was held at Castle Garden, and that the Exhibition was opened to the public on the 29th of Sept. and continued until the 3d of the present month inclusive, during which time they estimate that 40,000 of their fellow citizens visited the Garden.

Although free admission was given to the members of the Institute and depositors of goods, and cards of invitation issued to the judges, the municipal authorities of this city and the neighboring places, the gentlemen connected with the press, and numerous distinguished individuals, the total receipts amounted to \$2,188, which it is believed will be found

very nearly or quite sufficient to defray the expenses on that occasion, a detailed account of which will be presented as soon as the Sub-Committee on Finance shall have closed their labors. This result is more flattering than could have been anticipated, when it is recollected that a beautiful plate for printing diplomas and a pair of dies for striking medals have been procured, and are now the property of the Institute; an expense which will necessarily not again recur. Among other advantages to the Institute, the accession of rising 300 members may be enumerated.

The Committee must remark, that the quantity and variety of the articles exhibited, exceeded their most sanguine expectations, and that the quality reflected the highest credit upon the skill and ingenuity of the contributors, and gave irresistible and gratifying evidence of the rapidity with which our country is advancing in the arts and in manufactures.

The Committee herewith submit notices of the various articles exhibited, and a list of the premiums that have been awarded. They have been prepared by their Sub-Committee on Premiums, and the attention of the Institute is invited to them.

Although the publication of these papers has been delayed for a longer period than was desirable, and many articles of merit have remained unnoticed in consequence of the want of information from contributors themselves, yet the Committee trust that the inexperience attendant upon, to them, a novel undertaking, will be considered a sufficient apology; and they feel assured that the valuable knowledge acquired in this first attempt will enable future Fairs to be conducted with greater pecuniary benefit to the Institute, and with increased interest to the public.

In presenting to you the results of our duties, and to the public a detailed exposition of the late Fair, it may not be irrelevant to the occasion to recall the cheering reflections arising from our present circumstances and future prospects.

It is impossible that we should not feel animated by the fact that our present number of active members is more than one thousand, and that the united energies of so large a portion of moral and intelligent citizens are, in their associate capacity, directed solely to the promotion of useful knowledge. Deeming knowledge both power and happiness, we should not be insensible to the influence which our efforts, well directed, may have upon our fellow citizens; nor can we think they will be unmindful of our objects and exertions. The diffusion of knowledge lays the foundation for every virtuous sentiment, and presents us with all the elements by which we are to be great or happy. Our means, derived from the public exhibition of American industry and individual contributions, concentrate in this great purpose, and we feel justified in anticipating a satisfactory result to ourselves, and an honorable appreciation by the public.

Lectures upon the Sciences and the Arts, a Reading Room and Library, now mark the efforts of our Association and the discriminating patronage of our liberal minded citizens. Further and still more efficient means are in progress to diffuse useful information, and thereby to advance the interests of a most important part of the community. These interests are, however, unlimited, and every honorable man, approving the objects we propose, is invited to co-operate in the measures and share in the effects of this Association. On reviewing our condition, our objects, and our resources, we are induced to proceed with additional zeal, we are stimulated to increased exertions, and encouraged in every laudable hope.

SAMUEL CARTER, Chairman.

L. D. GALE, Secretary.

Notice of the various Articles exhibited, comprising the Premiums awarded.

MACHINERY, MODELS, PHILOSOPHICAL APPARATUS AND INSTRUMENTS.

No. 8. *Double Power Under Shot Water-Wheel.* Invented by W. F. Brown. This Wheel is simple in construction, and works with very little friction. From the form and relative position of the flights, and an inclined chute under the wheel, the water is used in the most effectual manner. The wheel can be driven with very little head, and works well when completely submerged. By the addition of gates, it will answer a good purpose for tide mills. The Committee have awarded to the inventor the Silver Medal of the Institute.

No. 2. *Bromly's Portable Shower Bath.* Considered very useful and ingenious. The Diploma of the Institute.

No. 124. *Assay Balance.* Jones & McDonald, 83 Fulton street. Workmanship beautiful, and sensible to the 500th part of a grain, when loaded with ten penny weight. The Committee award to the manufacturers the Silver Medal of the Institute.

No. 258. *Machine for Making Sea Biscuit.* Deposited by J. & C. Bruce, 121 Bowery. A very excellent invention, for which the Silver Medal of the Institute has been awarded.

No. 212. *Shingle Machine.* Invented by D. Flagg, and deposited by S. S. Webster. The Machine consists of a frame to support the machinery, a gate working vertically, with a frow or knife to cut the shingles from the bolt; a vibrating beam attached to this and to a crank-shaft to work the knife up and down; two knives to shave the shingles, with screws and wedges to graduate their distances, and to secure them; a driver, working horizontally, to drive the shingle through between the knives attached to the wrist of the crank-shaft by a pitman. In operating, the shingle bolt is placed on the rest against the guide plates, and as the crank-shaft revolves the end of the vibrating beam is brought down, whilst its other end ascends with the gate and knife which cuts off the shingle, and the next half revolution of the crank forces

forward the driver with the shingle, carrying it through the casing between the scoring saws and knives, where it is shaped and shaved.

With two or three horse power the Machine turns out from 120 to 150 shingles per minute, and probably without more waste of timber than by the common method. The Committee award the inventor the Silver Medal of the Institute.

No. 6. *A Continual Draft Buoyant Paddle Wheel.* By N. Dodge.

No. 26. *Centrifugal Pump.* By Isaac Sloan.

No. 1. *Patent Platform Scales.* By Fairbank. This appears to be a good article.

No. 29. *Model of a Weighing Machine.* By H. Bartley.

No. 31. *2 Steamboat Models.* By John Clark.

No. 149. *1 Platform Scale.* By John J. Rohr, 242 Canal street. The Diploma of the Institute.

No. 95. *Portable Grist Mill.* Invented by D. Fitzgerald. The Judges decided this Mill to be by far the best in its construction, and most convenient for use, they have ever become acquainted with, and the Committee have awarded the Silver Medal of the Institute.

No. 253. *Iron Grist Mill.* By Payne & Reynolds. In this Mill metal has been substituted in the parts where burr stone is commonly used. From its convenient size, and the rapidity with which it grinds corn, it promises to be very useful.

No. 201. *Model of a Grist Mill.* By I. Sloan.

No. 262. *Iron Threshing Machine.* By Wm. G. Borland, Herkimer, N. Y. Yale & Curtis Patentees.

No. 217. *Threshing Machine.* By S. F. Warren.

No. 286. *Threshing Machine.* By James Maxwell.

No. 243. *Rotary Air Pump, new plan; Electro-Magnetic Apparatus.* By Hiram French, of Lansingburgh. Both of these are very ingenious, and worthy of the Diploma of the Institute.

No. 245. *Double Thread Screw Press.* A very good contrivance.

No. 197. *1 Copying Press, 1 Notarial Press.* Both of good workmanship. For exhibition, by Robert Hoe & Co. the makers.

No. 221. *Machine for Pressing Straw Hats.* By James Maxwell, 259 Bowery. Was considered by the Judges a very ingenious and valuable contrivance. The Committee have awarded to Mr. Maxwell the Silver Medal of the Institute.

No. 277. *1 Cider Mill.* Justin Ware. Simple and good. The Diploma of the Institute has been awarded.

279. *Safety Ladder.* Invented by John Schriber. Simple in its construction, expeditious in its operation, and with the assistance of guys on each side to prevent the oscillations attendant upon great elevations, may be made very useful. The Committee have awarded the Diploma of the Institute to the inventor.

No. 43. *1 Iron Safe,* made by Birk-

beck & Co. Brooklyn, L. I. The Silver Medal of the Institute.

No. 76. *1 Iron Safe,* by Cruttenden & Riley, Brooklyn, L. I. The Diploma of the Institute.

No. 57. *Iron Safes,* by J. Delano. These were considered very good.

No. 37. *Moveable Platform Scale.* Cole & Smith. The principle of this Scale was pronounced very correct, and the workmanship excellent. The Committee, at the recommendation of the Judges, have awarded to the makers the Silver Medal of the Institute.

No. 190. *Model of Steam Safety Boiler.* Invented by G. R. Clarke. This consists of a double boiler, one inclosed within another.

No. 33. *Model of an Apparatus for preventing explosions in Steam Boilers.* Invented by S. Kennedy, 22 Hudson street.

No. 236. *Machines for Morticing,* by George Page. One for cutting common mortices, and one for morticing Wheel Hubs. Both are very good and valuable machines. The Silver Medal of the Institute was awarded to the inventor.

No. 189. *Hydraulic Pump,* by Ridgeway & Co. A good article.

No. 120. *1 Pump, Suction and Force,* by John Conroy.

No. 215. *Machine for Cutting Straw,* by H. Haxley & Co.

No. 176. *Model of a Rail Road Axle.* Deposited by D. K. Minor. Very ingenious, and promises to be useful.

No. 149. *Jack Screw,* by John J. Rohr, 242 Canal street. Very good.

No. 223. *Jack Screws,* by W. Ballard. Good articles.

No. 32. *Portable Forge and Bellows.* Fairley, Concklin & Co. Very excellent, and so constructed as to be removed with great facility. The Committee have awarded a Silver Medal.

No. 68. *Model of a Patent Bellows.* By C. D. Holmes. This is a neat wood model of a Square Bellows, blowing a stream of air, at both the up and down strokes, into a rising head. The intention of the inventor is to produce a steady blast—a desideratum in the arts. The workmanship of the model is quite creditable to the inventor; but the object to be attained, namely, a steady blast, will, we fear, be a failure. In practice it will be found that the blast will not be so strong at the end of the stroke, on change of motion, as it will when the piston is in the centre, or half way of the box. The Bellows now in use, to wit, leather Bellows, with rising head-tub or cylinder, will each of them produce quite as steady a blast as the one referred to. Probably the best way of producing a perfectly steady blast, is either by using a fan Bellows, or two or more cylinder Bellows, acting at half centres, blowing into a reservoir or rising head.

No. 41. *Model of a Patent Lithographic Printing Press.* By P. Langlume. For exhibition.

No. 38. *1 Platinum Lamp, and Model of a Door Spring.* By F. Schott. The workmanship of the Lamp was good, and the price, \$2, although above that required in

the list of premiums offered, is less than the same article, of equal quality, has been previously sold at. The Committee have awarded to Mr. Schott a Diploma for the Door Spring, which is ingenious and well calculated for the purpose for which it is intended.

No. 35. *4 Ploughs and Improved Windlass.* By Wiley, Concklin & Co. Peekskill. For the Windlass, the Silver Medal of the Institute has been awarded. It is neat and compact, and so constructed that the lever need not be removed, and therefore much time is saved in its operation.

No. 252. *Model Churn, Angevine's Patent.* Deposited by F. S. Lane. Considered good.

No. 134. *Washing Machine.* By Asa W. Soule. Thought to be a good article.

No. 265. *Model of a Machine for Polishing Plate Glass.* The property of the Institute.

No. 220. *Model of a Fire Engine.* L. Campbell.

No. 209. *Electrical Cannon, and Cylinder for Electrical Machine, also Model of a Steam Engine.* Jonas Humbert, jr. Deposited for exhibition.

No. 104. *Balance Level.* Invented by F. Bartholomew. Intended as a substitute for the common Spirit Level. Workmanship very good.

No. 91. *Dipping Needle, Transparent Compass, Circular Protractor.* By Brown & Hunt. The Dipping Needle has the pivots turned very fine, and acting on agates. The horizontal circle on which the instrument turns is divided into single degrees, and has opposite verniers to read to five minutes. Spirit Levels, with adjusting screws, are also attached. Both the action and workmanship of the instrument are very excellent. The Circular Protractor has opposite verniers to read to single minutes, with an additional arm to carry the Rack Work motion. This instrument, as well as the Transparent Mariner's Compass, is a beautiful specimen. The Committee have awarded to the makers a general premium of the Silver Medal, and for each of the articles noticed, the Diploma of the Institute.

No. 133. *A Barometer, Thermometer, Hydrometer, in one Case.* 10 Thermometers, 1 Surveyor's Compass. By John Roach, 3 Wall street. The Committee have awarded Mr. Roach a Diploma for the Compass, which is a well made instrument.

No. 289. *Printing Press of the New-York Transcript.* This Press is the Double Napier, improved by Mr. S. Newton, one of the firm of Robt. Hoe & Co. and was built for the Editors of the Transcript, by those enterprising gentlemen. The Press will run from 23 to 2500 impressions the hour, and was put in operation and the paper worked off every evening during the exhibition. The beauty of its operation attracted the attention of thousands of the visitors at the Fair. The Committee take this opportunity of making their acknowledgments to the Editors, Messrs. Hayward, Stanley & Co. for the kindness evinced by them in removing their press, at considerable expense, to the Garden,

and they have no doubt that its exhibition contributed much to the gratification of visitors.

No. 71. *Armillary Sphere, or Problem Globe*. G. Vale, 84 Roosevelt street. Considered by the Committee of very great practical importance. The Diploma of the Institute.

No. 102. *An Extension Ladder, or Fire Escape*. John B. Gasner, 132 Chatham street, New-York City. Not having seen its practical operation, in cases of fire, the Committee are not prepared to speak of its utility; but if it can be made effective its advantages are incalculable. The inventor is entitled to great praise for so laudable an effort.

No. 103. *Model of a Brig*. George Slaughter, 7 Division street, New-York City. For exhibition.

No. 140. *2 Artificial Legs*. James Kent, Brooklyn, N. Y. The Committee cannot, within the limits allowed them by this report, do justice to the skill and ingenuity of Mr. Kent in the manufacture of these articles. The application of artificial feet to the stumps, below the knee, having been tried and failing in Europe, the success of Mr. Kent will be duly appreciated, we believe, by a discriminating public. Lieut. Young having lost both feet, these artificial feet have been applied with complete success, so that the gentleman walks easily with the assistance of a cane only; he is a relative of Mr. Stoneall, Shakspeare Hotel. The Committee award the Silver Medal of the Institute for the Lady's Foot.

No. 207. *1 Gig Patent Screw Boat—of Spanish Cedar*. Josiah Farr. This was uniformly admired for the beauty of its model, and its superior finish. The Committee are happy in awarding for so elegant an article, and one so deserving of competition in this City, the Silver Medal of the Institute.

No. 142. *Machine for Splicing Leather for Machine Cards*. Isaac Pierce. For exhibition.

No. 251. *2 Magnets*. Jonas Humbert, jr. These were very powerful, and well made. For exhibition.

CHEMICALS.

No. 23. *Specimens of Polishing Powder. Do. Paste and Water Proof Paste*. To be reported upon and information communicated on trial.

No. 67. *4 Boxes Austen's Patent Indian Rubber Oil Blacking*. Russel Austen, 113 Pearl street. Said to be water proof, and an excellent article for the preservation of leather. The judges, knowing its composition, can say with confidence that its materials will not injure leather, and from the specimens they have seen tried, they feel safe in inviting the public to make trial of the article.

No. 84. *3 Bottles of Lemon Syrup*. Mr. Groening. The Syrup, the Committee think superior to any exhibited, and, indeed, of a most excellent quality. The Diploma of the Institute.

No. 94. *Samples of Plaster*. Duncan & Arthur, corner of Jane and West streets. Considered very good, but the Committee

could not decide upon its merits in a powdered state, without a trial.

No. 96. *Chrystalized Prussiate of Potash*. Richard Brakell. Considered a most splendid specimen of chrysalization, and indicating great purity.

No. 110. *1 Case of Perfumery, and 2 Glass Jars of Fancy Soap*. Johnson & Co. 39 Cedar street. The quality of these articles, generally, was the very best, and they were got up in elegant style. The Diploma of the Institute.

No. 118. *5 Samples of Soap Stone Paint*. F. Bunker, 100 Barclay street, N. Y. This new article the Committee think bids fair to be very valuable in the arts; they therefore cheerfully recommend it to the public for a more particular trial of its merits.

No. 44. *1 Dozen Lemon Syrup*. M. Haulenbeck, 144 Nassau street. Considered of excellent quality.

No. 196. *Lucifer Matches*. Hopper, 364 Broadway. For exhibition.

No. 158. *1 Bottle of Writing Ink*. Noble Heath, No. 8 Hester street. The Committee think this the best ink they have ever seen, and they recommend it to public notice. A remarkable property of this ink is that it presents, when used on cards, &c. all the prismatic rays; it is really quite unique, and of surpassing beauty. The Diploma of the Institute.

No. 202. *1 Box Allum, 1 do. Saltpetre, 1 do. Copperas, 1 do. Oil Vitriol*. Messrs. E. Peck & Son. The Copperas the Committee consider of a superior quality, and not surpassed by any ever manufactured. The Nitre was thought to be of the best quality also, but the Committee could not well determine its purity. The Oil of Vitriol was excellent. The Diploma of the Institute.

No. 124. *Chemical Preparations*. Dr. Lewis Feuchtwanger, Broadway, New-York City. The great variety of Chemical and Medicinal preparations here presented for exhibition, attracted the particular attention of the Committee, and they would say, in general terms, that the preparations were of great purity and usefulness, and worthy of special notice. The indefatigable industry of Mr. F. in manufacturing Chemicals, hitherto imported, many of which are superior to the foreign article, will, we trust, be duly appreciated by the public.

No. 39. *1 Box of White Lead*. E. Clark, Saugerties, N. Y. This specimen was considered equal, if not superior, to any in the country. The great purity of an article so worthy of competition, induces the Committee to award the Silver Medal of the Institute.

No. 271. *1 Can of Copal Varnish*. Wm. Tildon. To be tested and reported upon.

No. 182. *1 Can of Coach Varnish*. P. B. Smith. To be tested and reported upon hereafter.

No. 206. *2 Bottles of Ink, and 1 Frame*. F. B. Callender.

BOOTS, SHOES, LASTS, AND LEATHER.

No. 36. *Ladies' Boots and Shoes*. F. S. & M. Morris, 388 Grand street, N. Y.

No. 63. *1 Pair Dancing Pumps*. J.

Field, Newark, N. J. Considered of excellent quality.

No. 69. *Gentlemen's Gaiter Boots*. Lewis J. Durand, 159 Centre street. Best exhibited. The Diploma of the Institute.

No. 70. *Ladies' Slips and Wadded Boots*. John Broqua, 331 Broadway, New-York City. The Committee consider the Wadded Boots the best article exhibited. The Diploma of the Institute.

No. 83. *Children's Pumps, Sandal Slips, and Misses' Gaiter Boots*. Thomas Weeks, 157 Delancy street. For the best pair of Misses' Gaiter Boots and Sandal Slips, the Committee awarded the Diploma of the Institute.

No. 106. *1 Pair Light Boots, 1 Pair Light Pump Boots, 1 Pair Cork Sole Pump Boots, 1 Pair Double Cork Sole Pump Boots, 1 Pair Dancing Pumps, 1 Pair Opera Pumps*. Kimble & Rogers, 104 Broadway, New-York City. The light boots and dancing pumps the Committee consider the best exhibited; they therefore award the Diploma of the Institution.

No. 135. *14 Pair Moccasins*. Mrs. Nichols, 106 Chatham street. These were considered very good by the Committee, and worthy the Diploma of the Institute.

No. 138. *2 Boxes of Lasts*. G. Coit & Sons, 305 Pearl street. The Gentlemen's Boot Lasts were the best offered, and thought worthy the Diploma of the Institute.

No. 145. *Ladies' Gaiter Boots and Slippers*. Made by W. J. Watson, 67 Fulton street, Brooklyn, N. Y. The best exhibited. The Silver Medal and Diploma of the Institute.

No. 160. *1 Pair Double Sole Water Proof Boots*. Robert Walker, 44 Greenwich street. These were the second best exhibited, and of an excellent quality.

No. 191. *4 Pairs Water Proof Boots*. Henry Brisch. These were considered by the Committee most excellent water proof articles. The Diploma of the Institute.

No. 51. *Ladies' Gaiter Boot Lasts*. Deposited by C. R. Williams, 62 Frankfort street. Considered the best offered. The Diploma of the Institute.

No. 194. *1 Side of Sole Leather*. Wm. Brown, Brooklyn. This was of an excellent quality, and an article the Committee were pleased to see offered for competition. The Diploma of the Institute.

No. 107. *1 Double Sole Boot, 2 Light do. and 1 Shoe*. C. B. & J. C. Green, 416 Broadway. Very good workmanship.

No. 204. *1 Case, 2 Pair of Boots*. Robert Webber.

No. 210. *1 Case Ladies' Shoes*. Benjamin Shaw.

No. 62. *1 Pair of Dancing Pumps*. E. Severance, Newark, N. J.

No. 211. *3 Lasts*. Wm. Shaw.

HATS, CAPS, AND FURS.

No. 69. *1 Case of Water Proof Hats*. Edward Townley, 148 Canal street.

No. 111. *3 Silk Hats*. G. B. Alvord, 12 Bowery. These specimens were of

ial notice of the Committee. For the best \$3.50 Hat they award the Silver Medal of the Institute.

No. 114. 1 *Silk Hat*. Isaac M. Henderson, 133 Lewis street.

No. 92. 1 *Case of Otter Ladies' Caps, do. Gentlemen's, and 1 do. Misses*. Charles C. Plaisted. The Committee consider these articles worthy of particular notice, and recommend Mr. Plaisted's work to the patronage of the public.

No. 163. 1 *Satin Beaver Lady's Hat, 3 Drab do. do.* S. Tuttle, 208 Chatham street. The Committee thought these, of superior quality, and received the specimen from the elegance of their finish, deserving the Diploma of the Institute.

No. 233. 3 *Straw Hats*. Mrs. Harrison, 43 1/2 Division street. The ladies merit particular attention in the specimens of mechanical skill which they present for exhibition to the public, and the Committee are happy to find that attention so well deserved, as in Mrs. Harrison's Hats. The extreme fineness of the braid, the charming neatness with which they were sewed, and this perfection of the model, though unpressed, entitles this lady, in their opinion, to the Silver Medal of the Institute.

No. 238. 1 *Russia Silver Fox Boa, 1 Siberian Blue Ice-Fox do., 1 do. Squirrel Cape, 1 do. Blue Fox do.* Christian G. Gunther. Considered very beautiful, and finely made. The Diploma of the Institute.

No. 248. 2 *Fur Hats*. A. & A. Barker. The Committee have thought these highly creditable specimens of workmanship, and therefore award the Diploma of the Institute.

No. 261. 2 *Ladies' Hats*. B. J. & J. W. Hunt. These were beautiful specimens of Ladies' Beaver Hats, and worthy the Diploma of the Institute.

No. 143. 4 *Otter Caps*. James La. Courrette, Pearl street. These were specimens of great superiority, and were not excelled by any exhibited, if they can be equalled in the country. The Committee cheerfully award the Silver Medal of the Institute.

GOLD AND SILVER ARTICLES.

No. 43. *A Case of Watch Dials*. William J. Mullen, New-York City. The Committee consider these specimens of American workmanship worthy of special notice, both for originality of design and elegance of workmanship. They have never been equalled by any articles of the kind, foreign or domestic; and when it is considered that heretofore a large sum of money has been sent abroad annually for these articles, the Committee feel at liberty to express unqualified praise in favor of the articles here exhibited; they therefore award to Mr. Mullen the Silver Medal of the Institute.

No. 52. 19 *Articles manufactured of Argentine, or German Silver*. H. Powell, Belleville, New-Jersey. These articles were of superior workmanship. The Silver Medal of the Institute.

No. 127. 1 *Case Pencil Cases, (No. 43, Ever Point.)* Woodward & Hale.

Some of these evinced a most elegant style of workmanship, whilst the patterns were of the most chaste and approved kinds.

No. 184. 1 *Case of Spectacles*. J. L. Moore, 142 Chatham street. Considered neat and elegant patterns, and very finely wrought. The Diploma of the Institute.

No. 213. *Patent Lever Temple Spectacles*. P. Williamson, 270 Division street. These are an improvement of the ordinary Spectacle Frame, by means of the intersecting levers of which the temple part is composed. The levers being about one inch in length, are made circular, so that when riveted to each other, they are adapted to the conformation of the head. The whole arrangement of levers gives to these spectacle bows great elasticity and uniformity of action, and is, withal, very neat and novel. The Diploma of the Institute.

No. 228. *Gold and Silver Thimbles, and Spectacles*. Platt & Brothers. The patterns of the Thimbles were much admired, and the Spectacle Bows were highly distinguished for their neatness, convenience, and elegance of finish. The Committee awarded the Diploma of the Institute.

No. 242. 2 *Bars of German Silver, 2 Rolls do. do.* Dr. Spieker, 191 William street, N. York. Considered by the Committee a valuable article, and capable of being appropriated to a great variety of useful domestic purposes: these specimens were of the finest quality. The Diploma of the Institute.

No. 205. 24 *Watch Dials*. Berger Webster & Co. These were a beautiful article, and thought by the Committee worthy of the Diploma of the Institute.

INDIAN RUBBER ARTICLES.

No. 123. 2 *Pair Indian Rubber Boots, 1 do. Shoes, 1 Knee Cap, and 1 Shoulder Cap*. Stephen C. Smith, 66 Chatham street. Many of these articles were considered by the Committee of superior quality, and particularly the *Ladies' Shoes*, from the admirable manner in which the cloth linings were incorporated with the rubber, so as to prevent them from becoming troublesome to the wearer, as they often do by being detached from the shoe. This is an invention of Mr. Smith's, and one which he applies with equal success to boots and clothing. The Diploma of the Institute.

No. 59. 17 *Pairs of Indian Rubber Shoes, also 1 piece Virgin Rubber, and 1 Sheet*. Corning & Son, 144 Water street. Considered of an excellent quality.

No. 179. *Machinery Banding, Stage Thorough Brace, and Gas Bag of Indian Rubber*. H. Raymond & Co. The superior excellence, and practical advantage, of the first named articles, entitle the gentlemen, as the Committee think, to the Silver Medal of the Institute.

No. 216. *Specimens of Indian Rubber*. Charles Goodyear, 13 Gold street. The Committee are of the opinion that of all the useful modifications and applications of this article, none exceeds, in novelty

or utility, that discovered by Mr. Goodyear. The original coloring matter, by a process peculiarly his own, is removed from the material, and any other given to it, whilst, at the same time, it is deprived of all of its unctuous and aqueous qualities, and yet retains its elasticity, durability, and imperviousness. The Committee can have no doubt of the utility and success of this discovery, and therefore recommend it to the immediate attention of the public. The Silver Medal of the Institute.

No. 232. 1 *Roll Indian Rubber, 1 Coat and Pantaloon of do.* Samuel Chase.

No. 272. *Case of Indian Rubber Balls*. H. Percival & Co. Considered very good, and handsomely made.

CABINET FURNITURE.

No. 9. *Camp-Bed and Table, (inclosed in the lid of a trunk.)* Wm. W. Woolley, Broadway, New-York City. Considered remarkably convenient and ingenious. It will, no doubt, be in great demand, particularly with travellers. The Silver Medal of the Institute.

No. 40. 1 *Lady's Work Box*. John F. Hanson, 57 Poplar street, Brooklyn, N. Y. First rate workmanship. The Diploma of the Institute.

No. 108. 1 *White Polished Door*. Solomon Pancoast, 54 Spring street, New-York City. This was an elegant article, and its beautiful finish was particularly admired. The Diploma of the Institute.

No. 125. 1 *Lady's Work Box*. Edward Senior, 138 Bleecker street. Considered a good specimen of workmanship.

No. 81. *Lady's Work Box*. A. Paterson.

No. 171. 1 *Centre Table, Mosaic top*. Wm. Fulcher, 88 Elm street. An elegant article, and worthy the Diploma of the Institute.

No. 187. 1 *Sofa Bedstead*. Francis Breckles. Considered by the Committee the best specimen offered, and really of superior excellence. They award to the maker the Silver Medal of the Institute.

No. 193. 1 *Breccia Top Centre Table—Column of Marble*. Wm. Vine. The Diploma of the Institute.

No. 287. 1 *Sofa and 1 Centre Table*. S. Carter, 51 Beekman street. For exhibition.

No. 144. 1 *Portable Desk*. Lawrence Ryer. For exhibition.

No. 154. 1 *Sofa Bedstead*. W. Woolley, Broadway, New-York City. In Mr. Woolley's good style of workmanship.

No. 237. 1 *Divan Bedstead and Royal Foot Rest*. W. Woolley.

CUTLERY, EDGE TOOLS, AND HARDWARE.

No. 7. 2 *Pounds Bright Wire—six miles long. 1 do. fine do. 1 Bundle Square Wire, and 1 do. Round do.* No. 12, Copper. From E. Peck & Son, New-York City. Considered wrought in a superior manner. The Silver Medal of the Institute for the 2 lbs. bright wire.

No. 82. 62 *Gross Wood Screws*. Goodell & Co. Newburg, N. Y. The Diploma of the Institute.

No. 821. *Four Plumb Spirit Levels.* J. & H. M. Pool, Easton, Mass. N. B. The Messrs. Pools are the inventors of this valuable instrument, and secured the patent in 1833. Too much credit cannot be awarded to these enterprising gentlemen, for their useful invention. The Silver Medal of the Institute.

No. 824. *5½ dozen Shovels and Spades.* Deposited by Mitchell Ames & Co. No. 2 Liberty street. Considered very good.

No. 98. *14 Pairs Shears.* Rochus Heinisch. The specimens exhibited were of superior workmanship and finish, and deserving public notice. The Silver Medal of the Institute.

No. 112. *1 Case of Stocks and Dies.* Daniel B. King, Waterford, N. Y. The Committee are of the opinion that these are equal, if not superior, to any of the kind in the country. They award the Silver Medal of the Institute.

No. 80. *Invoice of Files.* George Rothery, Bloomfield, N. J. Many of these were considered equal to any imported, doing much credit to the manufacturer, by so successful a competition with the foreign article. The Silver Medal of the Institute.

No. 132. *1 Case Steel Pens.* C. Atwood, 72 Maiden Lane. Considered very good in style and execution. The Diploma of the Institute.

No. 141. *6 Dirk Knives.* Robert Ward. The Committee think these specimens of workmanship have great elegance and perfection. They award the Diploma of the Institute.

No. 167. *4 Bundles of Iron Wire.* E. Peck & Son. These specimens were thought by the Committee to be of superior quality and workmanship.

No. 268. *2 Augers.* Upson & Campfield, Humphreysville, Ct. These were superior articles, doing much credit to the manufacturers.

No. 269. *9 Auger Bits.* Clark & Hartshorn, Humphreysville, Ct. These articles have been brought to great perfection by the makers.

No. 274. *One Case of Stocks, Dies and Taps.* I. Sloat. The Committee considered these very good, and awarded the Diploma of the Institute.

No. 276. *1 Set of Coach Springs.* Henry C. Jones, Newark, N. J. A superior article, and entitled to the particular attention of the public, as well as the Silver Medal of the Institute.

No. 173. *Traphining Instrument, and 4 Pairs of Razors.* C. A. Zeitz. The Surgical Instrument here exhibited is certainly a very beautiful specimen of workmanship. The absence of the ingenious inventor prevented a better knowledge of its applicability. The notice of the professors of surgery is invited to it. The Committee award the Silver Medal of the Institute.

No. 177. *4 Boards of Brass Ware.* M. W. & J. A. Emmons. For the excellence of this Ware the Committee award the Diploma of the Institute.

No. 200. *1 Concave Screw Auger.* Wheeler & French, 18 Pine street. The Committee consider this a very valuable

article; and one which they cannot commend too highly to public notice. They award the Silver Medal of the Institute.

No. 214. *Patent Graduated Diamond-Point Pens.* George Williamson, 270 Division street.

No. 250. *1 Clock Main Spring, 2 Chronometer do. 1 Lever and 1 Lepine do.* Desaulles & Clerc, 27 Madison street. These were most excellent specimens of American workmanship, equal, if not superior, to any imported. The manufacturers should be patronized in this new article. The Diploma of the Institute.

MUSICAL INSTRUMENTS.

No. 60. *1 Grand 7 Octave Piano Forte, and 1 do. 6 Octave do.* Bridgeland & Jardine, 338 Bleecker street; sold by Otto Torp & Co. Broadway. The latter of these was distinguished for mellowness and sweetness of tone, and considered the second best exhibited; for which the Committee awarded the Diploma of the Institute.

No. 89. *1 Piano Forte—grand action.* John Abbot, 66 Walker street. The Silver Medal of the Institute. The Committee consider this instrument possessed of great brilliancy of tone, pleasant touch, and made in a superior manner.

No. 151. *1 Bass Double-slide Trombone, 1 Kent or Keyed Bugle, 1 Keyed Trumpet, 1 Tenor Trombone, and 1 Slide Trumpet.* John Rosenberk, Utica, N. Y. Though there was no competition in these articles, the Committee are gratified in stating that, in addition to their own judgment, they have that of some of the best performers in this or any other country, for saying that these specimens have never been surpassed by any of the kind, either for tone or workmanship. They award the maker the Silver Medal of the Institute.

No. 165. *1 Piano Forte—clutch-round cornered.* A. G. Smith.

PRINTING AND BOOK BINDING.

No. 20. *Fancy Card Printing.* By C. L. Adams. These were uncommonly beautiful specimens, and quite equal to engraving. The Diploma of the Institute.

No. 49. *Specimens of Xylographic Engraving.* Wright & Prentiss, 45 Maiden Lane. Considered beautiful specimens of the art. The Silver Medal of the Institute.

No. 65. *1 Rotary Printing Press—for Cards.* Charles F. Voórhes, Newark, N. J. The Committee think this Press extremely ingenious, and admirably adapted for the printing of Cards. The originality displayed in the invention, and the rapidity with which it executes work of this kind, is deserving of general, as well as of our own particular notice. The Silver Medal of the Institute.

No. 117. *6 Blank Books.* David Felt, 245 Pearl street. The specimens of Binding here exhibited are of superior order in the taste with which they are got up, the elegance of their style, and the strength of their workmanship. The spirit of enterprise manifested by the manu-

facturer, in producing specimens of these, the Committee think deserve special notice from the public. They award the Silver Medal of the Institute.

No. 126. *5 Boxes Printing Ink.* P. Prout, 63 Spring street. These specimens are so well known as not to need commendation from the Committee.

No. 259. *1 Printing Press.* James Maxwell, 259 Bowery, N. York. Considered an excellent press both for the perfection of its work, and its simplicity. The committee were much pleased with it, and awarded the Diploma of the Institute.

No. 148. *4 Specimen Books of Type, 16 Pages of Types, and a Furnace in casting Types.* George Bruce & Co. New York City. These books exhibited great perfection and beauty to which the manufacturers of types and typographical ornaments and illustrations have brought the art.

No. 254. *Specimens of Bookbinding.* Coolidge & Lambert, 65 Wall street. These were very good specimens of work.

No. 109. *1 Bible.* Charles A. Fock. For exhibition.

No. 273. *2 Composition Rollers.* Thomas. For exhibition.

FINE AND ORNAMENTAL ARTS.

No. 3. *Astral Lamp, Candlestick, Writing Stands, Portrait Frame, Shells, Studs, &c., &c., made of Anthracite Coal.* From E. W. Kirk, 233 Chesnut street, Philadelphia. By Anderson & Ward. The Silver Medal of the Institute. The specimens were considered by the Committee superior, in point of workmanship, to any articles of the kind ever exhibited in this country.

No. 10. *Imitation of Quincy Granite.* A. Kent, 100 Concord street, Brooklyn, N. Y. A very fine specimen of imitation.

No. 15. *2 Pieces of Sculptured Quincy Granite.* A. Lawrence. Very good workmanship. The Silver Medal of the Institute.

No. 16. *Pantographic Drawing of Chief Justice Marshal.* Wm. L. Ormsby, Nassau street, New-York City. Considered of superior merit. The Diploma of the Institute.

No. 19. *Transparencies and Blinds.* W. I. Hannington. Considered extremely beautiful. The perfection to which Hannington has brought this art does him great credit. The Committee have awarded the Silver Medal of the Institute.

No. 22. *Ionic Capitals—two specimens of Carving in Wood.* Luff & Moore, 105 Elm-st. New-York City. Finely executed. The Diploma of the Institute.

No. 25. *12 Specimens of Penmanship.* By Isaac Goward. Exhibiting much industry.

No. 46. *19 Specimen Imitations of Rosewood, Mahogany, Marble, &c. The Mosaic Table Top, in this collection, was imitatively fine, and worthy of the admiration uniformly expressed by visitors.* Executed by George Bird, 94 Anthony street. The Silver Medal of the Institute.

No. 48. *Two Framed Designs.* By Thomas, 37 Canal street, New-York.

one representing a magnificent
duct and Bridge across the East
ver, from Brooklyn to New-York, the
committee think indicative of no ordina-
talent in the young artist, by whom
was executed. The Bridge is supposed
have a row of Stores on either side; and
abutments and arches, 6 in number,
be of granite, except the central one,
which is designed to be of cast iron, 180
et high.

No. 61. 1 *Painting of a Dog's Head*.
William Malbone. The Committee con-
sidered this a picture of superior merit,
exhibiting great freedom in penciling and
boldness of touch, for which they award
the Silver Medal of the Institute.

No. 64. 1 *Painting of St. John*. John
Lyon, 94 Anthony street, New-York
City. The execution of this was thought
to be good.

No. 74. *Framed Specimen of Carving*.
Heron, 419 Water street—Frame ex-
ecuted by Mott & Stuart. The orna-
mental work is very ingeniously wrought,
and with much labor.

No. 84. 3 *Framed Engravings*. Geo.
Lancott, 359 Broadway. Considered
very spirited Drawings, and well execu-
ted. The Diploma of the Institute.

No. 88. *Framed Samples of Clinton's*
Patent Cement. Deposited by N. H. Gale.
The Diploma of the Institute. The
committee are induced to invite public
attention to this article, from the great
credit it is said to possess, by those who
have used it, for the walls of buildings;
as much as it is both very beautiful and
strengthening. From its great hardness, it is
Warrantable of being washed, like marble,
without affecting its polish. Patented
by Charles Clinton, West Town, Orange
County, N. Y.

No. 116. 11 *Specimens of Penman-*
ship. John W. S. Mackie. The Com-
mittee are of the opinion that Mr. Mack-
ie's specimens of writing are distinguish-
ed by a free and intelligible style.

No. 246. 1 *Framed Drawing, City*
of Brooklyn, N. Y. Wm. Brown.—
This Drawing did the artist much credit,
particularly on account of its shading.

No. 222. 1 *Vase of Shell Work*. John
Lyon, 94 Anthony street, New-York
City.

No. 93. 1 *Specimen of Needle Work*,
(*later Creatoris*), 1 *Bell Rope* and 1 *Lamp*
Shade. Mrs. Hardrop, 3 Roosevelt street.
The first of these articles, wrought with
the needle, is considered by the
committee of extraordinary merit; exhi-
biting both great skill and uncommon in-
dustry. They are not surprised that it re-
ceived, as it deserved, the uniform ex-
pressions of admiration from the visitors
to the Fair: they therefore award to the
author the Silver Medal of the Institute.

No. 113. *Case of Shell Work and*
Carving. John Lee, 271 Broadway, New-
York City. These specimens of in-
genious workmanship the Committee con-
sider very flattering evidences of the taste
and skill of the artist; they therefore
award the Diploma of the Institute.

No. 119. *Specimens of Penmanship*.
William Jones, 183 Broadway. The
author of these specimens is particularly

free and bold, and, in these respects, wor-
thy of special notice.

No. 183. 1 *Large Glass Punch Bowl*.
Birch & Scarlett, 12 Liberty street.
This massive article, from the truly
beautiful manner in which it was cut, and
the richness of its pattern, was particu-
larly admired by all who saw it. The
Committee take pleasure in awarding the
Diploma of the Institute.

No. 147. *Pedestal of Scagliola*. Pa-
trick Foley. The almost perfect resem-
blance of this to marble, both in touch
and color, with the beautiful polish which
it possesses, has received particular at-
tention from the Committee. The Di-
ploma of the Institute.

No. 153. *Statue of Napoleon Bonaparte*,
in Brown Stone. David White, 80 Charl-
ton street. The execution of this speci-
men of sculpture, by a journeyman stone
cutter, does the artist much credit.

No. 156. 1 *Case of Artificial Teeth*.
James Alcock. The Committee were
particularly attracted to these specimens
of a useful and ornamental art, by the
great perfection of the enameling; a
point not sufficiently considered in esti-
mating the value of artificial teeth. They
award the Diploma of the Institute.

No. 157. *Specimens of the Mending*
of Lace. Mrs. Heath, No. 8 Hester street.
It is with no common satisfaction the
Committee recommend this art to public
notice. The rents in the specimens ex-
hibited, though large, could scarcely be
detected by the closest examination. The
Diploma of the Institute.

No. 162. *Specimens of Pantographic*
Engraving. T. S. Woodcock. These
specimens prove that this valuable branch
of the arts, though somewhat new, has
been brought to a degree of elegant per-
fection. The Committee award the artist
the Silver Medal of the Institute.

No. 178. 2 *Framed Drawings*. J.
Davis. The taste and art displayed in
these Architectural Drawings, together
with the effective management of the
lights and shades, readily show them to
have come from the hand of a skilful
artist. The Diploma of the Institute.

No. 192. 1 *Colossal Bust of McDonald*
Clarke. James V. Stout. The truth of
the likeness, and the superior finish of this
specimen of modelling, the Committee
think entitles this to more than ordinary
notice. It will have appeared to all who
have seen it that, in addition to the like-
ness and finish, it is in perfect keeping,
and replete with the spirit of life. It
has not been surpassed, if equalled, by
any specimen of the kind in the country.
The fact that this is the second effort at
modelling from life by this young artist,
and yet that the relative proportions, the
character and perfection of anatomical
development, has been so wonderfully
preserved in every delineation, goes
further to prove his talents in the minds
of mature judges, than our public ex-
pression of praise. The Silver Medal
of the Institute.

No. 195. *A Bank Note Plate*. C. P.
Harrison. Considered good.

No. 219. 6 *Specimens of Scagliola*. J.

W. Clark. These specimens were ex-
tremely beautiful, and particularly ad-
mired by the Committee for the variety of
their colors, and for the ornamental pur-
poses to which the article may be applied.
They award to the manufacturer the Di-
ploma of the Institute.

No. 231. 2 *Vases of Artificial Flowers*,
made of Feathers. J. B. Fisk, Brooklyn,
N. Y. The Committee would make
mention of these beautiful specimens,
for the almost perfect resemblance they
have to the natural flower; they display
much ingenuity and skill.

No. 241. 1 *Framed Specimen of Nec-*
dle Work. Alfred N. Brewer.

No. 244. 1 *Framed Specimen of Pen-*
manship. F. W. Williams.

No. 255. 3 *Specimens of Bank Notes*.
Casselear, Durand & Co. The execu-
tion of these notes were in the well known
good style of the engravers.

No. 257. 1 *Design of the Chapel of the*
N. Y. University, 1 do. of City Hall, Brook-
lyn. A. J. Davis. These designs were
in the best style of the artist, so well
known as an architect in this city. The
tone of shading and truth of perspective,
were particularly admirable. The Silver
Medal of the Institute.

No. 275. 2 *Shell Card Racks*. Miss
Shipman. For exhibition.

No. 281. *A Basket and Box of Grecian*
Ornamental Glass. Miss Minor. Thought
by the Committee to be very neat, and
creditable to the lady's taste and skill.

No. 283. 6 *Looking Glasses*. Ed. S.
Hill, 130 Chatham street. The Glasses
were excellent.

No. 288. 1 *Map and 3 Engravings*. Wm.
J. Mullen, 175 Broadway. For exhibition.

No. 164. *Architectural Drawings*. John
Mitchell. For exhibition.

No. 199. 2 *Specimens of Penmanship*.
J. A. Lee, 18 Pine street. For exhibition.

MISCELLANEOUS.

No. 12. *Specimens of Tool Handles*.
By N. Couenhoven. Considered good.

No. 17. *Miniature Ship*. Capt. Bissel,
368 Broadway, New-York City. A good
model.

No. 18. 31 *Specimens of Pottery from*
the Salamander Works. Deposited by M.
Lefoulon, 62 Cannon street, New-York
City. These are beautiful specimens,
and the Committee feel justified in saying
that they have seen nothing to equal them
in this country. In articles of this kind,
where competition is so successfully pro-
secuted with the foreign article, the spe-
cial notice of the public is merited by the
enterprising manufacturers. The Silver
Medal and Diploma of the Institute.

No. 21. *Type Moulds*. Mr. Abbys.
Highly finished, and apparently very good.
The Diploma of the Institute.

No. 30. 1 *Rifle Walking Cane*. A.
D. Cushing, Troy, N. Y. Considered a
very ingenious and important instrument,
and finished in the most workmanlike man-
ner. The Silver Medal of the Institute.

No. 34. *Castor Frames, Lamps, Can-*
dlesticks, of Britannia Ware. I. Weeks
& Co. Poughkeepsie, N. Y. Very good
and highly finished.

No. 45. *Cork Mattress, Spring do. and Cork Bag.* John L. Norwood, 240 Water street. The Committee consider them very good, and worthy of special notice from those who use such articles.

No. 54. 11 *Samples of Snuff.* B. L. & H. Joseph, 138 Front street, New-York City. Diploma of the Institute. The Committee consider the quality of these specimens very superior, and in this they were borne out by the olfactory evidence afforded by visitors.

No. 55. *Naval Bombshell—Patent.* Dr. Scudder, New-York City. Cast by Johnson & Geer, Troy, N. Y. and the spikes wrought by Burden & Knower, of Burden's Patent Spikes. This is eminently calculated to effect the destructive purposes for which it was designed.

No. 58. 1 *Beer Pump and Cask.* D. F. Sergeant, 40 Fulton street, Brooklyn N. Y. This is a self-supplying Double Power Pump, with little friction, and well suited to the purposes of Bar Rooms, Cisterns, &c. It is also well adapted for the uses of Wine, Cider, or Porter Bottlers, as it will empty casks without disturbing, in the least, the sediments therein.

No. 97. 2 *Printed Table Covers, and 1 Piano Cover.* Duncan & Cunningham. Considered of great beauty and firmness of texture. The Diploma of the Institute.

No. 100. 250 *Scripture Gems.* Colton & Jenkins. Considered very well executed.

No. 121. 8 *Specimens of Children's Clothing, viz. 4 Suits and 4 Tunics.* Mr. Durando, 60 Chatham street. Many of these were considered by the Committee very beautiful, and got up in fine taste. The Diploma of the Institute was awarded.

No. 75. 1 *Fancy Reel, for Winding Silk.* S. H. Platt, 128 Spring street, New-York City. Considered a very useful article.

No. 77. 2 *Boxes of Spermaceti Candles.* Samuel Judd. These were extremely beautiful, and not surpassed by any in the country. The Diploma of the Institute.

No. 78. 1 *Bed Quilt, of 3,180 pieces.* Lydia Todden. Considered a beautiful article, and the result of much labor.

No. 128. 1 *Pair Jacks.* 2 *do. Cards.* 1 *Machine Card,* 3 *Shuttles,* 1 *Cleaner,* 3 *Bobbins,* 1 *Side Lace Leather.* John Whittemore, 66 Frankfort street. The Cards and Shuttles were considered by the Committee of superior workmanship, and the *Lace Leather* as possessed of extraordinary merit, and think that it will come into great use.

No. 129. 6 *Pieces Mole Skin Buffalo Cloth.* Peter H. Schenck, 35 Pine street, New-York City. These were thought by the Committee superior articles, and highly meriting public attention. The Diploma of the Institute.

No. 131. 4 *Pieces Carpeting.* G. W. & G. Betts, 434 Pearl street, New-York City. All these specimens were considered good, but that of the Venetian

Carpeting was thought to be very heavy, and in pattern and workmanship particularly excellent. The Diploma of the Institute.

No. 155. 3 *Coffee Urns,* 1 *Egg Coder,* 1 *Tea Pot,* 1 *Water Dish and Cover.* James Grant, 315 Broadway, New-York City. These are considered by the Committee of superior workmanship; they therefore award to Mr. Grant the Diploma of the Institute.

No. 161. 1 *Pair Window Blinds.* Francis Baker, 366 Hudson street.

No. 168. 3 *Fishing Rods and 1 Reel.* John Conroy. Considered good articles.

No. 175. 1 *Pair Ottomans,* *Foot Stool,* *Lamp Mats, &c. &c.* Mrs. Shultz, 45 Lispenard street. Some of these specimens were considered by the Committee extremely beautiful, and highly creditable to the lady who wrought them. The Diploma of the Institute.

No. 181. 4 *Port Folios, or Manifold Writers.* James Gilchrist, 102 Broadway, New-York City. The utility of this contrivance for copying Letters, &c. the Committee think to be generally known. The Diploma of the Institute.

No. 174. 1 *Brass Trip, or Counter Scale.* W. H. & S. Nichols. Remarkable for its convenience.

No. 115. 3 *Trusses and Case.* Dr. A. G. Hull, 132 Fulton street. The Committee think this instrument admirably adapted for the purposes described; they award the Diploma of the Institute.

No. 186. 3 *Pairs Mantle Lamps,* 2 *Stand do. and 1 Astral do.* Samuel Wignall. These were beautiful patterns, and very richly ornamented with cut glass. The Committee awarded the Diploma of the Institute.

No. 198. 1 *Travelling Trunk.* Orlando Williams, 6 Norfolk street. Considered the best specimen offered, and of excellent workmanship. The Diploma of the Institute.

No. 203. 2 *Lamp Stands and Case.* Mrs. Whatmough. These specimens for competition were considered deserving the Diploma of the Institute.

No. 208. 1 *Frame of Castings.* Jones Kiem & Co. The Committee thought these very good, and meriting the Diploma of the Institute.

No. 229. 1 *Patent Coffee Roaster.* G. H. Clark, 4 Fletcher street. This was thought to be very convenient and durable, wherefore the Committee awarded the Diploma of the Institute.

No. 234. 1 *Cherry Stone, containing 24 dozen Silver Tea Spoons.* Charles Smith. This exhibited great skill and ingenuity.

No. 264. 1 *Speaking Trumpet.* Colin Lightbody. Considered very well made, and entitled to the Institute's Diploma.

No. 266. *Apparatus for Injecting the Veins.* Dr. J. Mauran. This is for injecting liquids into the veins, and is an appendage adapted to a self-injecting apparatus. It consists of a glass bulb with tubes fitted with screws, so as to be attached to Mob's self-injecting instrument, and so constructed as to prevent the possibility of the passage of air into the veins. The

Committee think the instrument superior to every other for the purpose, and therefore award to the inventor the Silver Medal of the Institute.

No. 267. *Dahlia Flowers.* William Prince & Sons. The Committee are under special obligations to Mr. Prince for the splendid flowers which he sent to grace the exhibition hall of the Institute.

No. 291. 2 *Specimens of Fire Works.* Reuben Rider. The Committee thought the pieces very good, and they were much admired by the large company of spectators at the closing of the exhibition Castle Garden, when Mr. R. made a very brilliant display of the pyrotechnic art. He was awarded the Diploma of the Institute.

No. 280. 1 *Fancy Musket.* John Mellen, 187 1-2 Greenwich street, N. Y. The Committee think this made in the neat and most workmanlike manner. They award the Diploma of the Institute.

No. 285. *Specimens of Sealing Wax.* Lewis & Co. The Committee consider this the best article they have ever seen of the kind, foreign or domestic. The fancy colored wax in this large collection, does credit to the manufacturer, and should, with all the kinds here exhibited, receive the attention of the public. They award the Diploma of the Institute.

No. 72. 1 *Waggon.* Walters, Barrett Co. Brooklyn, N. Y. A fine specimen of workmanship.

No. 105. *Samples of Mustard.* J. C. well, 77 Canal street. For exhibition.

No. 180. *Model of Patent Metal Ring.* John Woolley. For exhibition.

No. 170. 1 *Tin Trunk.* L. Lester, 213 Water street, New-York City. This was a new and ingeniously made article and one which the Committee particularly noticed.

No. 85. *Pen and Ink Drawing,* 1 *Engraving of Ornamental Iron Work,* and 1 *Frame of Cards.* W. M. Thompson, 167 William street, New-York City. For exhibition.

No. 188. 1 *Ship in Case.* Wm. Seal. For exhibition.

No. 218. 1 *Churn.* Justin Ware.

No. 235. 1 *Miniature Rail Road Clock.* W. S. Jacks. This was an ingenious piece of work, and was in operation during the Fair, to the delight of visitors. For exhibition.

No. 247. 1 *Bed Quilt.* L. R. Sweland. For exhibition.

No. 249. 1 *Bottle, with Reel of Silk.* For exhibition.

No. 263. 1 *Glass Hives.* Mr. Kelsey. For exhibition.

No. 270. *Map of the United States.* James McChesney. For exhibition.

No. 278. 1 *Door Weight.* Dr. Davidson. For exhibition.

No. 24. *Sea-Horse Hide.* Remarkable for thickness.

No. 260. 1 *Framed Oil Painting.* Avigney, 183 Broadway. This specimen had no inconsiderable merit.

No. 230. 1 *Large Tabular Plate,* 16 *Lights of Glass.* New-York Brooklyn Crown Glass Company. The

Company was incorporated in 1832; capital \$60,000; employs 50 hands, and produces 10,000 feet of Glass weekly; their Factory is in Brooklyn, near the Navy Yard. The quality of this Glass was considered by the Committee most excellent. The Plate was of great dimensions, with equal clearness and uniformity in thickness. The Diploma of the Institute.

STOVES.

No. 282. 1 *Summer Cooking Stove*. Charles Vale, Newark, N. J. This was a superior article, and adds to the reputation of Mr. Vale, as a manufacturer of Stoves.

No. 47. Sent for exhibition.

No. 13. 1 *Purloir and 1 Cooking Stove*. Sylvester Parker, Troy, N. Y. Beautiful and convenient articles. The Diploma of the Institute.

No. 27. 1 *Cooking Stove*. Seth Lowe & Co. Made by Mr. Town, Salem, Mass.

No. 56. 1 *Cooking Stove—of Sheet Iron*. Charles Vale, Newark, N. J. Considered a most ingenious arrangement for domestic purposes, whilst it is admirably adapted for an economical appropriation of heat. The Silver Medal of the Institute.

No. 101. 1 *Stove*. James Hinds, 200 Canal street, New-York City. The Committee consider this a very handsome article. The Diploma of the Institute.

No. 122. 3 *Coal Cooking Stoves*. Joel Curtiss, 222 Greenwich street. Considered very neat and useful articles. The Diploma of the Institute.

No. 166. 3 *Cooking Stoves, 1 Fancy and 1 Parlor do.* Jordan L. Mott, 248 Water street. The Committee consider the two last mentioned stoves novel and useful.

No. 185. 2 *Rotary Stoves and Fixtures*. M. N. Stanley & Co. The ingenuity displayed in the structure of these, and their utility, entitle them to the Diploma of the Institute.

No. 139. 2 *Cooking Stoves, 1 Globe do.* Doyle & Patterson, 213 Water street. For exhibition.

No. 146. 1 *Coal Cooking Stove, 1 do. for Heat*. S. C. Lawrence, 125 Broadway, New-York City. For exhibition.

No. 27. 1 *Cooking Stove*. Seth Lowe & Co. 211 Pearl street. Wm. Town, maker, Salem, Mass.

No. 66. *Doric Fireplace and Minerva Grate*. Wm. Mallory, Agent. The Committee highly approve of these articles, both for their model and workmanship, combining, as they do, great neatness and utility: the Grate is admirably adapted for the burning of anthracite coal. The Committee award the Silver Medal of the Institute.

No. 79. *Spoor's Patent Coal Stove and Scuttle*. J. F. Clarkson, 51 Fulton street, New-York City. Considered very good and very neat. For the Stove the Committee award the Diploma of the Institute.

APPRENTICES' WORK.

No. 4. *Two Mantle Lamps*. Made by James McGovern, New-York City, an apprentice one year. Considered very good. Privileges of the Institute.

No. 5. *Two Astral Lamps*. William Moore. Considered very good.

No. 11. 2 *Pictures*. George Heister, aged 15.

No. 14. 1 *Cask*. George Thompson, aged 18 years—1 year an apprentice—56 Goerck street, New-York City. Deserving great praise. Silver Medal and Privileges of the Institute.

No. 28. 1 *Iron-bound Cask*. James Flinn, an apprentice, 19 years old, 3 years at trade. Diploma and Privileges of the Institute.

No. 39. *Frame of Cards*. By James Everdell, 135 William street, N. Y. C., a boy aged 15 years. The Silver Medal and the Privileges of the Institute.

No. 50. 1 *Iron-bound Barrel*. James Thomas, an apprentice; 2 years at trade. Privileges of the Institute.

No. 51. *Gentlemen's French Boot Lasts*. Those in Box No. 3 were made by a boy 14 years old, to whom the Committee award the Privileges of the Institute.

No. 85. 1 *Case of Jewelry*. George Street, an apprentice, 18 years of age, 3½ at trade. The Diploma and Privileges of the Institute.

No. 90. 1 *Case of Surgical Instruments*. James Turkington, 51 Clinton street; an apprentice, 18 years old. The Silver Medal, and the Privileges of the Institute. The Committee are of the opinion that the case of Surgical Instruments, here presented, exhibits talents and zeal in the maker worthy of being stimulated to further exertions, and that these specimens of his workmanship are of surpassing elegance and finish.

No. 136. 1 *Silk Hat*. James Patterson, 94 Canal street—1 year an apprentice with Mr. John Wright. Considered, from the short experience of the maker, an uncommon evidence of skill.

No. 137. 1 *Clock Stand, and 1 Marble Ink do.* Wm. Patterson, 33 Canal street, 3½ years an apprentice to Mr. Barnes. Considered excellent work. The Privileges of the Institute.

No. 150. 1 *Leather Travelling Trunk*. Geo. Dupignac, 28 Hester street, nine months an apprentice to O. Williams. The Committee take pleasure in noticing the early efforts of apprentices, and this specimen is one among those to which their attention has been called. The Privileges of the Institute.

No. 73. 2 *Tables*. Joseph Fisher, 15 years old; an apprentice 1½ years. The Diploma and Privileges of the Institute. These specimens certainly gave great promise of talent in the young mechanic, and were duly appreciated by the Committee.

No. 155. To Wm. Taylor, an apprentice, 19 years of age, manufacturer of a *Coffee Urn*, the Committee award the Privileges of the Institute.

No. 240. 3 *Carpenter's Ploughs, and 7 Spare Irons*. Isaac Battie, Providence, R. I., 18 years old, apprentice 3 years to J. R. Gale. The superiority of workmanship displayed by this young man, in the make of these articles, entitles him, in the opinion of the Committee, to the Silver Medal of the Institute.

No. 53. 5 *Ladies' Straight Lasts*. R. Coit, a lad 16 years of age; 1 year at the trade. The Privileges of the Institute.

No. 87. 1 *Carved Ionic Cap*. Samuel Smith, aged 16 years. Well executed.

No. 152. 1 *Engraving of McDondell Clarke*. Lewis P. Clover, aged 16, first attempt, 6 months at trade. Considered an evidence of uncommon merit in his business, and therefore worthy of the Diploma and Privileges of the Institute.

No. 84. *Machine for Corking Bottles*, made by Augustus Williams, an apprentice, deposited by F. Groening. Privileges of the Institute were awarded to the apprentice for the workmanship, which was excellent.

No. 91. 3 *Pairs Pocket Compasses*. By Gerrett Barney, 16 years of age. Apprentice to Brown & Hunt. These have much merit. A Diploma, together with the Privileges of the Institute, have been awarded to the apprentice.

During the evening which closed the Fair of the Institute, Dr. Gale made several brilliant and interesting experiments, with the Institute's powerful Galvanic Battery. The combustion of Charcoal, and Platinum, displayed an intensity of action, power of heat, and vividness of light, which astonished the numerous auditors. The light was altogether too dazzling for the sight, and could be viewed only a few moments at a time. The combustion of metals in water was not the least interesting to the ladies and gentlemen present, who repeatedly manifested their surprise and gratification, during the performances, by loud and cheering applause.

The novel exhibition of *Walking upon the Water* was also presented from the Garden to thousands of our citizens during the Fair of the Institute. Mr. Macintosh, the successful experimenter, entered the water near the Battery, and walked a considerable time in the North River, sustaining himself in an upright position, and moving with much apparent ease, though the surface of the water was agitated by rough and high waves. This experiment satisfactorily proves the importance of the simple apparatus used on the occasion, for fording rivers, and for preservation against accident.

GEORGE BRUCE,	} Committee on Premiums.
HENRY CUNNINGHAM,	
WILLIAM PARTRIDGE,	
HENRY DURELL,	
JOHN M. DODD,	
ADAM HALL,	
JOHN BELL,	
W. H. HALE,	
J. S. REDFIELD.	

LAW OF MARINE INSURANCE AND PRIVITY.
—The report of an interesting case, in which the question between the insurers and the insured, turned on the point, of whether the master of the vessel had not improperly hazarded his ship, by standing on too long without a pilot, will be found in our columns to-day.

The Chicago American states that the Prairies were burning in all directions, during the first part of last week. The flames had approached to within a short distance of that village. No other damage had been sustained, but the burning of a number of haystacks.

LINES.

BY THE AUTHOR OF "CORN-LAW RHYMES."
Written after seeing the *Plates of Audubon's Birds of America*.

"Painting is silent music," so said one
Whose prose is sweetest painting. Audubon!
Thou Raphael of great Nature's wood and seas!
Thy living forms and hues, thy plants, thy trees,
Bring deathless music from the houseless waste,
The immortality of truth and taste:
Thou giv'st bright accents to the voiceless sod,
And all thy pictures are mute hymns to God.
Why hast thou power to bear the untravell'd soul
Through farthest wilds, o'er ocean's stormy roll,
And to the prisoner of disease bring home
The homeless bird of ocean's roaring foam,
But that thy skill might bid the desert sing
The sun-bright plumage of the Almighty's wing?
With his own hues thy splendid lyre is strung,
For genius speaks the universal tongue.
"Come," cries the bigot, black with pride and wine,
"Come and hear me! the word of God is mine."
"But I," saith He who paves with suns his car,
Or makes those suns his coursers from afar,
And, with a glance of his all-dazzling eye,
Smiles into crashing flame the boundless sky—
"I speak in this swift sea-bird's speaking eyes,
These passion shiver'd plumes, these lucid dyes;
This beauty is my language; in this breeze
I whisper love to forests and the seas:
I speak in this lone flower, this dew-drop cold,
That hornet's stings, yon serpent's neck of gold—
These are my accents: Hear them! and behold
How well my prophet-spoken truth agrees
With the dread truth and mystery of these
Sad, beautiful, grand, love-warbled minstrelsies!"
Yes, Audubon! and men shall read in thee
His language, written for eternity:
And if, immortal in its thoughts, the soul
Shall live in Heaven, and spurn the tomb's control,
Angels shall re-transcribe, with pens of fire,
Thy forms of Nature's terror, love, and ire,
Thy copied words of God—when death-struck suns ex-
pire. [Rousseau.]

JAMES RIVER AND KANAWHA CANAL, VIRGINIA.

NOTICE TO CONTRACTORS.

THE Board of Directors of the James River and Kanawha Company, having resolved to place under contract seventy-three miles of the line of their improvement, viz: All that part extending from the water works dam at Lynchburg to the end of section No. 118, in the village of Scottsville, and the thirteen miles between the Seven Island Falls, and the village of Columbia—

Sealed proposals will be received by the Secretary of the Company, at their office in the city of Richmond, from November 18th, to December 7th, inclusive, for all the excavation, embankment and walling in that distance.

The portion of the line which it is intended to let, comprises many difficult points, and a considerable amount of river walling and blasting.

The line will be prepared for examination by the 18th of November; after which date, up to the time of letting, all useful information will be given, and the maps and profiles exhibited to contractors, on application being made to either of the Principal Assistant Engineers, Simon W. Wright, in the village of Cartersville, Daniel Livermore, at Scottsville, and Charles Elliot, Jr., in the town of Lynchburg.

It is expected that the proposals of contractors who are not personally known to either of the Assistant Engineers, will be accompanied by proper testimonials of character and experience, from the Engineers of other works on which they have been engaged.

The seals of the proposals will be broken on the 10th of December, and the acceptance of the propositions by the Board, made known as soon after, as will be practicable. By order of the President and Directors.

W. B. CHITTENDEN, Secretary.
Note—This advertisement is not intended to embrace the Locks, Dams, Culverts, or any other of the works of art—Prior to the letting of which, as well as of the residue of the excavation and embankment between Scottsville and Maiden's Adventure, due notice will be given. 44—7D

ENGINEER DEPARTMENT,
BALTIMORE AND SUBQUENNAH RAILROAD COMPANY.
October 19, 1835.

To Contractors.—Proposals will be received between the 25th and 25th of November next, for the Graduation and Masonry on 20 miles of this Road.

ISAAC TRIMBLE,
Engineer B. & S. R. R. Co.
WILLIAM GIBBS McNEILL,
Consulting Engineer.

ENGINEER DEPARTMENT,
WRIGHTSVILLE AND YORK RAILROAD COMPANY.
October 19, 1835.

To Contractors.—Proposals will be received in York, Penn., between the 20th and 25th of November next, for the Graduation and Masonry, of the whole line of Road.

ISAAC TRIMBLE,
Engineer W. & Y. R. R. Co.
WILLIAM GIBBS McNEILL,
Consulting Engineer.
Oct. 31.—3t.

STEAM ENGINE WANTED.
A good, second hand, Steam Engine, of 10 or 12 horse power, is wanted for a boat to be used on a Canal. Any gentleman having an engine suitable for that purpose, which he can sell cheap, may address a note to, or call upon, the Editor of this Journal, who is desired to make inquiry, and to communicate the result to the advertiser.

TO TUNNEL CONTRACTORS.

Proposals will be received by mail, or otherwise, for excavating a Tunnel on the summit of the Sandy and Beaver Canal. The Tunnel is 900 yards long, the material to be removed is a soft sand-stone rock, the highest part of the ridge through which it passes is about 90 feet above the top of the Tunnel. As the deep cuts at the termination are not excavated, most of the material will have to be removed through shafts. Proposals must be accompanied with good recommendations, as to skill and competency.

E. H. GILL,
Engineer.
New-Lisbon, Ohio, Sept. 17, 1835. 38—6t

TO TUNNEL MINERS, DRILLERS, &c.

Wanted, immediately, 40 Tunnel Miners, (Cornish Miners will be preferred,) 80 Drillers, 50 Laborers, and two experienced Mine Blacksmiths, on the New-York and Harlem Railroad, about five miles from the City. Liberal wages will be given, and cash payments made every fortnight. Apply at Mr. FOWLER'S, St. John's Hall, Frankfort street, New-York.

JOHN RUTTER, Contractor.
The Albany Argus, Philadelphia U. S. Gazette and Pennsylvania, will please copy this, and send their bills to the Railroad Company, 14 Wall street, New-York. 23—tf

NEW-ORLEANS AND NASHVILLE RAILROAD.

NOTICE TO CONTRACTORS.

The New-Orleans and Nashville Railroad Company having decided to place under contract the first fifty miles of the Road, on the 15th day of December next, Proposals will be received at their Office, in the City of New-Orleans, from the 15th of November to the 15th day of December next, for the Graduation and Bridging of the same.

The Superintending Engineer, R. S. Smith, will be upon the ground to give every explanation relative to the manner of making Proposals, and such other information as may be required.

Of persons not personally known to the Engineer, there will be required certificates of character and qualifications.

This part of the road, extending along the shore of Lake Pontchartrain, is perfectly healthy throughout, and being the commencement of the most extensive work in the world, it cannot fail to be of great importance to Contractors to identify themselves with the work at its commencement, as those who are known to the Company as responsible and efficient will certainly be preferred to strangers during the future progress of the road.

The country through which the line passes is generally high pine ridge, and perfectly healthy.

H. J. RANNEY,
Chief Engineer N. O. & N. Railroad.
Engineer Office, N. O. & N. Railroad,
Aug. 25, 1835. 37

RAILROAD IRON WORK,

Of all kinds, made to order by GODWIN, CLARK & CO., Paterson, New-Jersey.

CAR WHEELS, BOXES, AXLES, and CAR SPRINGS, made and fitted complete, at short notice, and fair prices. Orders addressed to them at Paterson, N. J., or 24 Broad street, N. Y., will meet with immediate attention. Paterson, Aug. 19, 1835. 34—1y

AMES' CELEBRATED SHOVELS, SPADES, &c.

500 dozens Ames' back-strap and plain Shovels,
75 do do round-pointed do
150 do do cast steel Shovels and Spades,
100 do do Socket Shovels and Spades,
150 do do steel plated Spades,
Together with Pick Axes, Churn Drills, and Crow Bars, steel pointed, made from Salisbury refined iron. For sale by his Agents,

WITHERELL, AMES & CO.
2 Liberty street, New-York.
BACKUS, AMES & CO.
8 State street, Albany.
34—ytf

RAILROAD IRON.

300 tons of Railroad Iron of the T pattern, just imported and for sale by
HOWLAND & ASPINWALL,
25 10t 55 South street.

RAILWAY IRON.

195 tons of 1 inch by 4 inch, Flat Bars in lengths of
200 do. 1 1/2 do. 14 to 16 feet, counter sunk
40 do. 1 1/2 do. do. holes, ends cut at an angle
800 do. 2 do. do. of 45 degrees, with spli-
800 do. 2 1/2 do. do. cing plates and nails to
soon expected.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.
Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 24, 28, 32, 36, 40, and 44 inches diameter for Railway Cars and Locomotives of pattern iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON,
9 South Front street, Philadelphia.
Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use both in this country and Great Britain, will be exhibited to those disposed to examine them. d7lmeowr

PARTNER WANTED.

Wanted, a partner in an extensive Printing Establishment. No one need apply who is not a thoroughbred printer, competent to superintend and direct an office in which upwards of 30 persons are employed, and able to furnish \$3000 cash capital. The best of references will be given and required. Letters, with real name, may be addressed to P. P. P., Post Office, New-York, postage paid, and they will be promptly attended to. May-if

RAILROAD CASTINGS.

MANY & WARD, Proprietors of the Albany Eagle Air Furnace and Machine Shop, will make to order car wheels, chairs and knees, and every other description of castings required for railroads. R-ly 36lb

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads.

No. 284 Elizabeth street, near Blacker street, New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad now in operation. J35 t

RAILROAD CAR WHEELS AND BOXES AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to.

Also, CAR SPRINGS.
Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR
PATENT RAILROAD, SHIP AND BOAT SPIKES.

The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation and now almost universal use in the United States (as well as England, where the subscriber obtained a Patent,) are found superior to any ever offered in market.

Railroad Companies may be supplied with Spikes having countersink heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

HENRY BURDEN, Agent.
Troy, N. Y., July, 1831.

Spikes are kept for sale, at factory prices, by I. & J. Townsend, Albany, and the principal Iron Merchants in Albany and Troy; J. I. Brower, 223 Water street, New-York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

P. S.—Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes. 1J2sam H. BURDEN.

SURVEYING AND ENGINEERING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new, among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also a Railroad Goniometer, with two Telescopes—and a Leveling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,
Mathematical Instrument Maker,
No. 9 Dock st., Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested. Baltimore, 1832.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
JAMES P. STABLER, Sup't of Construction
of Baltimore and Ohio Railroad.
Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.
Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level. I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.
German and Norristown Railroad
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